AECOM

FIVE-YEAR STATUS AND EFFECTIVENESS EVALUATION REPORT

JANUARY 2009 TO DECEMBER 2013

FORMER TRW MICROWAVE FACILITY
825 STEWART DRIVE
SUNNYVALE, CALIFORNIA

FEBRUARY 2014

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February 28, 2014

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CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

On behalf of Northrop Grumman, AECOM has prepared this Five-Year Status and Effectiveness Evaluation Report for the former TRW Microwave Operable Unit (OU) (the "site") located at 825 Stewart Drive in Sunnyvale, California. This Five-Year Report is submitted to the California Regional Water Quality Control Board – San Francisco Bay Region (Water Board). Five-Year Reports for the Site are prepared pursuant to the June 1991 Site Cleanup Requirements (SCRs) (e.g., California Maximum Contaminant Levels [MCLs] or notification levels, federal MCLs, or risk-based levels, as adopted in Water Board Order No. 91-103 (Water Board, 1991). Five-Year Reports are required because the SCRs have not yet been attained. The purpose of Five-Year Reports is to ensure that the Site remediation action remains protective of public health and the environment, and is functioning as intended. The remediation action for the Site was identified in Water Board Order No. 91-103 and in the September 1991 Record of Decision (ROD) issued by the United States Environmental Protection Agency (USEPA, 1991).

The first Five-Year Report was prepared by Weiss Associates (WA) in June 1996 (WA, 1996a) and was subsequently approved by the Water Board. The second Five-Year Report was prepared by Camp Dresser & McKee (CDM) in September 2001 (CDM, 2001a) and was subsequently approved by the Water Board (Water Board, 2001a). In 2004, the USEPA and Water Board synchronized the Water Board's and the USEPA's five-year review schedule. Consequently, the third Five-Year Report to the Water Board, prepared in May 2009, covered the period from May 2004 through December 2008 (CDM, 2009a).

1.1 Objectives

This fourth Five-Year Report summarizes site activities during the five-year review period from January 2009 through December 2013. The objectives of this Five-Year Report are:

- Document activities conducted during the five-year review period,
- Present current site conditions,
- Assess plume containment and chemical concentration trends,
- Evaluate the effectiveness of current remedial actions to achieve SCRs, and
- Recommend measures to achieve SCRs.

1.2 Report Organization

This Five-Year Report consists of the following seven sections:

- Section 1: Introduction – provides the objectives of the report.
- Section 2: Background – presents an overview of the site operational and regulatory history, and site geology and hydrogeology.
- Section 3: Summary of Remediation Activities Prior to January 2009 – summarizes site remedial investigations and actions conducted prior to January 2009.

- Section 4: Summary of Remediation Activities Since January 2009 – summarizes site remedial investigations and actions conducted over the last five years.
- Section 5: Remediation Effectiveness Evaluation – assesses the effectiveness of the remedial actions over the last five years to improve site groundwater quality.
- Section 6: Conclusions and Recommendations – presents the findings of the remedial actions conducted over last five years and recommends improvements to achieve SCRs.
- Section 7: References – lists the documents cited in this Five-Year Report.

2.0 BACKGROUND

This section provides background information for the site including its location and description, historical use, and listing of important previous investigations conducted as a part of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.

2.1 Site Location

The former TRW Microwave site is located at 825 Stewart Drive in Sunnyvale, California, about 50 miles southeast of San Francisco, California. A site location map showing the street location is presented on Figure 1, and a site vicinity map showing the aerial location of the TRW Microwave OU and surrounding areas is presented on Figure 2.

The TRW Microwave OU is surrounded by the following sites that are impacted by volatile organic compound (VOC) sites: Advanced Micro Devices (AMD) Buildings 901/902 Thompson Place and 915 DeGuine Drive; Philips Semiconductors (Philips; formerly Signetics Inc.) Buildings 811 Arques, 815 Stewart Drive, and 440 Wolfe Road; and Mohawk Laboratories. Three of these facilities (AMD 901/902, Philips 811, and Mohawk Laboratories) are located hydraulically upgradient (south) of the TRW Microwave OU; two facilities (Philips 815 and 440) are located approximately cross-gradient (west) of the site, and one facility (AMD Building 915) is located downgradient (north) of the site. These surrounding sites have historically used trichloroethene (TCE) and other chlorinated VOCs in their manufacturing processes and have released these VOCs to groundwater. AMD, Northrop Grumman, and Philips (the Three Companies) share responsibility for the management and remediation of the commingled groundwater plume, defined as the Three Companies Offsite Operable Unit (OOU).

2.2 Operational History

Prior to 1968, the site was not used for industrial activities. From 1968 to 1974, Aertech Industries (Aertech) assembled and tested microwave and semiconductor components at the site. In 1974, TRW Inc. (TRW) acquired the site from Aertech and in 1987 FEI Microwave purchased it from TRW. FEI Microwave subsequently became Tech Facility 1, Inc. During these changes in site ownership, operations were continuous, with no significant process changes from 1968 to 1993. In 1993, FEI Microwave stopped

production, and in 1995 the site was acquired by Stewart Associates. The site was subsequently leased to Diablo Research Corporation, a contract research and development company. Diablo Research Corporation occupied the site until August 2000, when Cadence Inc. leased the site and continued research and development operations. Since January 2001, the site has been unoccupied (CDM 2009a).

Between 2001 and 2003, the site building exterior was remodeled. As part of this remodeling, a portion of the site building was demolished and a new structure, contiguous with the existing structure was constructed. Figure 3 presents the current site building layout.

In December 2002, TRW merged with Northrop Grumman. In 2004, the property was purchased by Pacific Landmark. During these changes in site ownership, TRW, and then Northrop Grumman, retained responsibility for site cleanup. During operations at the site between 1968 and 1993, TCE and other industrial solvents were used and hazardous wastes were generated as a byproduct of the operations. Waste solvent composed mainly of TCE was stored in an underground storage tank (UST) from 1970 through 1982. The tank was removed in early 1983. Figure 3 presents the location of the former UST. An in-ground three-stage ammonia gas acid neutralization system (ANS) operated from 1968 to 1984 after which it was disconnected, removed, and replaced by an aboveground system with secondary containment. The aboveground ANS was disconnected and removed in 2001, during remodeling of the site building (CDM, 2009a).

2.3 Geology and Hydrogeology

2.3.1 Regional Geology and Hydrogeology

The site is located in the Santa Clara Valley, a structural basin bounded by the Santa Cruz Mountains to the south and west and San Francisco Bay to the north. The basin is filled with Quaternary-age alluvial sediments that were derived from the Santa Cruz Mountains and deposited along northward-trending ancestral streams enroute to the San Francisco Bay. The depositional environment was characterized by meandering and braided stream systems that created sequences of coarse-grained sand and gravel units interbedded with fine-grained clay and silt deposited during fluctuations in the ancestral San Francisco Bay (CDM 2000a).

Regionally, the alluvial sediments in the site area have been divided into two broad hydrogeologic intervals or zones, referred to as the upper aquifer zone and the lower aquifer zone. These two zones are separated by an extensive clay and silt aquitard that generally occurs at depths beginning at about 100 feet below ground surface (bgs). Numerous coarse-grained sand and gravel units have been identified in the upper and lower aquifer zones, and these water-yielding zones have shown to roughly correlate throughout the area.

The upper aquifer zone consists of two water-yielding zones, designated as Zones A and B while the lower zone is designated Zone C. Zone A occurs within the interval from the water table to a depth of about 25 feet bgs. Zone B consists of five sub-zones (Zones B1

through B5) encountered at approximately 30 feet bgs to 100 feet bgs. Drinking water aquifers occur below 150 feet bgs in the lower aquifer zone or Zone C. Studies at the site have not been conducted below Zone B (CDM 2000a).

2.3.2 Site Geology and Hydrogeology

The site stratigraphy consists predominantly of clay and silty clay inter-bedded with coarser lenses of sands and gravels. Six water-yielding zones, Zone A and Zones B1 through B5, have been identified beneath the site or in the surrounding area. These zones consist of permeable sediments, ranging from silty sand to sand and gravel, and are vertically separated by laterally continuous lower permeability clay and silt intervals. Although the zones themselves are understood to be fairly continuous in the site area, the individual permeable lenses within the zones have been found to be highly discontinuous in nature. Onsite VOC impact has been shown to be present in Zones A, B1, and B2. Zones B3 and B4 have not been shown to contain VOCs beneath the site, indicating that the aquitard separating Zones B2 and B3 is continuous and sufficiently competent to prevent the vertical migration of VOCs. Geologic cross-sections of the site (A-A', B-B', and C-C') are shown on Figures 4 through 6; cross section line locations are shown on Figure 3.

2.3.3 Groundwater Movement

Regional groundwater movement for the three monitored zones beneath the site (A, B1, and B2) has historically been to the north or the north-northeast. However, groundwater extraction at off-site locations adjacent to the site has substantially influenced the groundwater movement, particularly in Zones B1 and B2 (CDM 2009a). Potentiometric surface contours generated for Zones A, B1, and B2 using the October 2013 water-level elevation data are presented on Figures 7, 8, and 9, respectively.

The ranges of hydraulic conductivities reported in previous reports (WA 1996b and CDM 2000c) for Zones A and B1/B2 are 356 to 400 feet per day and 25 to 150 feet per day, respectively. The ranges of groundwater flow velocities reported in previous reports (WA 1996b and CDM 2000a) for Zones A and B1/B2 are 15 to 22.5 feet per day and 1.25 to 7.5 feet per day, respectively.

Vertical hydraulic gradients are generally downward, as monitored in cluster wells screened in Zones A, B1, and B2 and are likely influenced by pumping at the adjacent sites (AECOM, 2014).

2.4 Regulatory History

As a result of responses to a Water Board questionnaire that was submitted in 1983 after the removal of the site UST, TRW initiated an investigation of potential impacts to soil and groundwater at the site (WA 1996a). Between 1983 and 1986, several subsurface investigations were conducted in the vicinity of the former UST, the ANS, and associated piping. The investigations identified VOCs as the only chemicals of concern (COCs) at the site and the former UST as the only source of VOC impact to site groundwater.

In 1984, based on the soil investigations to delineate the former site source area (the area around the former UST), TRW excavated additional soil that was not removed with the UST in 1983. The excavation was backfilled with gravel to serve as a pit for groundwater extraction. A vertical polyvinyl chloride (PVC) pipe was placed in the gravel backfilled pit, from the base of the pit to the surface, for groundwater extraction. The gravel backfilled pit is identified as the Eductor pit and the PVC pipe as the Eductor. Figure 3 presents the locations of the former site source area excavation (i.e., Eductor pit) and Eductor.

In June 1984, the Water Board issued a Cleanup and Abatement Order and in October 1985 adopted Waste Discharge Requirements (WDRs) for the site. The Cleanup and Abatement Order and the WDRs were formally adopted in Water Board Order No. 85-107. In support of these requirements (also in 1985), TRW installed a groundwater extraction and treatment (GWET) system to reduce VOC concentrations and prevent off-site migration through hydraulic control. Also in 1985, TRW implemented a full-scale groundwater monitoring program to assess the groundwater quality and the hydraulic control of the VOC groundwater plume at the site (WA 1996a). Figure 3 shows a site plan with all existing monitoring well locations.

In January 1988, the Water Board adopted its initial site SCRs for the site. A comprehensive soil investigation was conducted in 1988 to address remaining impacts at the identified source, the former UST. The Water Board issued revised SCRs and WDRs in April 1989 and September 1989, respectively. In February 1990, USEPA formally added the site to its National Priorities List.

In June 1991, the Water Board issued Water Board Order No. 91-103 and established the final SCRs for the site and rescinded the previous order (Water Board 1991). Water Board Order No. 91-103 approved the site subsurface investigation and feasibility study reports (Harding Lawson & Associates [HLA] 1991a and HLA 1991b) and adopted the original proposed plan. The proposed alternative in the feasibility study, and subsequently adopted by Water Board Order No. 91-103, was the then current GWET system. Also in 1991, the Water Board issued separate orders to several surrounding sites. These facilities included AMD Buildings 901/902 Thompson Place and 915 DeGuine Drive, and Philips Buildings 811 Arques, 815 Stewart Drive, and 440 Wolfe Road. Figure 2 presents the location of the AMD and Philips sites and the OOU in relationship to the site.

In September 1991, the USEPA issued a combined ROD (USEPA 1991) for the Superfund sites associated with the OOU: TRW 825, AMD 901/902, Philips 811, and Philips 440. In the ROD, USEPA identified GWET as the groundwater remedy for the individual sites and the OOU. The conclusions of the ROD for the site were consistent with Water Board Order No. 91-103.

In response to the ROD and Water Board Orders, AMD, Philips, and TRW installed GWET systems at their respective sites. In addition, the Three Companies collectively installed a hydraulic containment system for the impacted groundwater within the OOU. The OOU hydraulic containment system extracts groundwater from a set of wells downgradient of the individual Three Companies' sites. This system prevents migration of VOC-impacted

groundwater beyond (north of) Highway 101. The extracted water from the system is treated at the Philips on-site treatment system.

In July 1993, TRW installed a soil vapor extraction (SVE) system to remove VOCs in the vadose zone beneath the former site source area. The system operated until November 1996, when it was terminated due to low VOC concentrations in the unsaturated zone. In May 1997, the Bay Area Air Quality Management District (BAAQMD) approved elimination of the granular activated carbon vessels for the treatment of VOC vapors associated with the SVE system as long as the VOC concentrations were below emission limits (BAAQMD 1997).

Based on soil vapor sample results from the SVE points in September 1997 and July 1998 that indicated little rebound in VOC concentrations, TRW gave a presentation to the Water Board requesting the closure of the SVE system (CDM 1997 and CDM 1998). In August 1998, the Water Board concluded that no further soil remediation was necessary at the site and that the SVE system could be removed. In November 1998, the SVE system was removed and 12 of the 13 SVE points were destroyed. SVE point MP-1 was capped due to its location within the Eductor pit (CDM 1999a). In December 1998, the Water Board issued a letter stating that the SVE system had achieved the soil cleanup level (1 milligram per kilogram [mg/kg] total VOCs) and no further action was required in the vadose zone (Water Board 1998). MP-1 was subsequently removed in 2002 during remodeling of the site building exterior.

In April 1999, TRW presented its disagreement with Philip's interpretation of the TCE concentration contours for Zone B1 near and downgradient of TRW extraction well T-9B (CDM 1999b). In May 2000, TRW requested the Water Board to grant permission to shut down groundwater extraction at wells T-9B and T-2C because VOC concentration data indicated that pumping from these two wells was competing/interfering with Philip's capture of the VOCs in Zones B1 and B2 (CDM 2000b). In November 2000, the Water Board approved shutdown of groundwater extraction at well T-2C for one year and directed TRW to monitor it quarterly for VOCs to allow assessment of whether pumping should resume. In February 2004, based on evidence of continued improvements to groundwater quality, the Water Board approved permanent shut down of extraction at well T-2C (CDM 2003 and Water Board 2004).

The Water Board initially did not grant approval to terminate pumping at well T-9B over concern for VOCs migrating to the downgradient property (Water Board 2000). In April 2001, groundwater extraction was discontinued from well T-9B (along with well T-9A) to allow for site redevelopment activities (Water Board, 2001c). Subsequently, approval from the Water Board was received for the continued suspension of groundwater extraction based on changes in VOC concentrations after suspension (CDM 2001b and Water Board 2001a).

In July 1999, at TRW's request, the Water Board approved revising the site groundwater sampling plan and reporting schedule from semiannual groundwater sampling in April and October to annual sampling in October (CDM 1999c and Water Board 1999). In October 1999, TRW initiated an evaluation of natural attenuation and chemical oxidation as

remediation alternatives that could effectively shorten the timeframe necessary to achieve SCRs and a "no further action status" for the site (CDM 1999d). In March 2000, CDM's report on the evaluation of natural attenuation and chemical oxidation recommended that enhanced anaerobic bioremediation (EAB) be implemented for Zone B1. In August 2000, TRW submitted a work plan to implement EAB in Zone B1 at the former site source area (CDM, 2000c).

In October 2000, after verbal approval from the Water Board, TRW implemented EAB by injecting an organic substrate (Regenesis' Hydrogen Release Compound™ [HRC] product) into Zone B1. Although not intended, due to the injection method and hydraulic communication between Zone A and Zone B1 near the source area, a small portion of the HRC product was also injected into Zone A. Extraction from Zone B1 wells within the EAB application area (T-2B and T-8B) was shut down for the period of the application so as to allow proper distribution of the substrate and avoid interference with the fate and transport of the substrate. During this time, at the request of the Water Board, TRW installed monitoring well T-10B at the site to monitor the concentration of VOCs between wells T-8B and T-9B.

In March 2001, due to redevelopment activities at the site, the Water Board approved relocation of the groundwater treatment system to the northwest corner of the site. Figure 3 presents where the GWET system was located at the site. During relocation, no pumping of groundwater occurred from any site wells (CDM 2001b and Water Board 2001a).

In April 2001, based on the periodic monitoring of Zone A wells within the EAB application area, TRW determined that the limited amount of the HRC that was injected into Zone A had changed conditions in Zone A to support EAB. TRW submitted an addendum to the EAB Work Plan to inject HRC into Zone A and the Water Board approved the addendum (CDM 2001c and Water Board 2001b). In June 2001, TRW injected HRC into Zone A. Extraction from Zone A points within the injection area (Eductor, T-2A and T-8A) was shut down for the period of the injection so as to allow proper distribution of the substrate and avoid interference with the fate and transport of the substrate.

In September 2001, TRW submitted the second Five-Year Report for the site, in accordance with Water Board Order No. 91-103 (CDM 2001c). Based on evidence of improved water quality at the site, the report recommended continued cessation of groundwater extraction. The Water Board approved the report and its recommendations (Water Board 2001a).

In February 2003, based on evidence of continued improvements to groundwater quality, the Water Board approved continued cessation of groundwater extraction for an additional year (Water Board 2003). In December 2003, Northrop Grumman submitted a letter to the Water Board, which presented the results of groundwater monitoring, an evaluation of the effectiveness of the EAB application, and a response to the Water Board's comments made in February 2003 (CDM 2003 and Water Board 2003).

In October 2003, Northrop Grumman collected indoor air samples from the interior of the site building in order to assess the impact of the groundwater plume on the indoor air

quality at the site. In January 2004, the results from this indoor air sampling event were presented to the Water Board in the report titled, *Evaluation of Indoor Air Sampling Results for the Former TRW Microwave Facility in Sunnyvale, California* (CDM 2004a).

In February 2004, based on evidence of continued improvements to groundwater quality, the Water Board approved continued cessation of groundwater extraction for an additional two years, through January 2006, for the Zone A and Zone B1 wells (CDM 2003 and Water Board 2004a). Also, subsequent to Water Board approval, Northrop Grumman abandoned monitoring wells T1-A and T-1B in accordance with Santa Clara Valley Water District (SCVWD) requirements (CDM 2004b and Water Board 2004a).

Indoor air samples were collected again on 5 April 2004 under typical conditions and again on 8 April 2004 under temporary mechanical ventilation to evaluate if air cycling would mitigate vapor concentrations below threshold levels. The success of the air cycling in mitigating indoor air concentrations to below threshold levels was documented in the *Report of Findings – Installation and Operation of a Temporary Mechanical Ventilation System and Indoor Air Sampling Report* (CDM 2004c). The Water Board requested an additional round of indoor air sampling without mechanical ventilation which was performed on 4 October 2004 Based on the results of this sampling, the Water Board recommended that and additional round of sampling be performed before the building is occupied.

In April 2005, Northrop Grumman submitted a preliminary draft of the Risk Management Plan (RMP) to the Water Board (CDM 2005a), which is required to be updated once a ventilation system is installed and the building is occupied.

In July 2006, the Water Board issued a letter to USEPA in which they concurred with the conclusions of the Revised Proposed Plan and recommended that USEPA change the groundwater remedy for the site from GWET to in situ bioremediation (Northrop Grumman 2006).

In September 2009, TRW submitted the third Five-Year Report for the site, in accordance with Water Board Order No. 91-103 (CDM 2009a). Based on evidence of improved water quality at the site, the report recommended continued cessation of groundwater extraction and implementation of EAB.

Also in September 2009, Northrop Grumman submitted updated revised proposed plan for the USEPA (CDM 2009b). This proposed plan updated the original revised proposed plan submitted in April 2006 (CDM 2006). The objective of this updated revised proposed plan was to change the groundwater remedy at the site to in situ bioremediation with monitored enhanced natural attenuation (MENA).

In November 2010, the Water Board required the preparation of a Focused Feasibility Study (Water Board 2010a). The document was prepared by AECOM and submitted to the Water Board, but has not yet been finalized.

In December 2012, the Water Board issued a Letter of Requirement for a Vapor Intrusion (VI) Sampling and Analysis Work Plan and Report (Water Board 2012) which documented

required elements to be included in an additional VI investigation. The work plan was approved by the Water Board on 30 October 2013 and sampling was performed in December 2013.

A chronology of major events associated with site subsurface investigations and actions since March 2004 is presented below:

Date	Event
March 2004	Northrop Grumman submitted a work plan to install and operate a temporary mechanical ventilation system prior to collecting additional indoor air samples within the site building (CDM 2004d).
April 2004	Subsequent to Water Board approval (Water Board 2004c), CDM installed and operated a temporary mechanical ventilation system within the site building and collected indoor air samples in order to determine the effectiveness of ventilation on reducing concentrations of VOCs to acceptable levels.
May 2004	Northrop Grumman submitted the *Report of Findings – Installation and Operation of a Temporary Mechanical Ventilation System and Indoor Air Sampling* report to the Water Board. In this report, CDM concluded that the rate of vapor intrusion into the site building appeared to be low enough to be mitigated solely with operation of a standard ventilation system (CDM 2004c).
June 2004	Northrop Grumman submitted evidence to the Water Board regarding re-designation of site well 36D as a Zone A well rather than a Zone B1 well (CDM 2004e).
July 2004	Water Board requested that "if the site building is not occupied by October 2004,.... another round of indoor air samples be collected without mechanical ventilation to determine if improvements in groundwater quality reduced vapor intrusion to a level that does not require further monitoring" (Water Board 2004d).
August 2004	Water Board approved the re-designation of site well 36D as a Zone A well rather than a Zone B1 well (Water Board 2004e).
September 2004	In response to the Water Board request, Northrop Grumman submitted a work plan to conduct an additional round of indoor air sampling without mechanical ventilation (CDM 2004f). As part of its Multi-site Cooperative Agreement (MSCA) with USEPA, the Water Board submitted Five-Year CERCLA Review report to USEPA and recommended that Northrop evaluate the feasibility of expanding EAB into the area where VOC concentrations still exceeded SCRs, and consider implementing in situ bioremediation as the final remedy for the site. The Water Board noted that the ROD (USEPA 1991) would need to be amended, if there is a permanent change in remedy from GWET to in situ bioremediation (Water Board 2004b). The USEPA approved the report the same month (USEPA 2004).

Date	Event
October 2004	Subsequent to Water Board approval of the work plan (Water Board 2004f), Northrop Grumman conducted another round of indoor air sampling without a mechanical ventilation system in operation.
November 2004	Northrop Grumman submitted the *Report of Findings – October 2004 Indoor Air Sampling* report to the Water Board. In this report, CDM concluded that mitigation of indoor VOC concentrations to below threshold levels could be achieved with operation of a standard ventilation system (CDM 2004g).
December 2004	Water Board approved the October 2004 Indoor Air Sampling Report (Water Board 2004g). The Water Board recommended that adequate ventilation be maintained in the site building in order to minimize risk to the health of building occupants and requested an additional round of indoor air samples be collected from the building before it is reoccupied. The Water Board also requested that Northrop Grumman prepare a RMP that would guide the future management of human health risks associated with occupancy of the site, with particular emphasis on the vapor intrusion issue (Water Board 2004g).
February 2005	The effectiveness monitoring showed that the EAB application increased the rate of chlorinated VOC biodegradation occurring within the former site source area and also accelerated VOC attenuation rates across the downgradient portions of the site.
April 2005	Northrop Grumman submitted a preliminary draft RMP to the Water Board (CDM 2005a) that is to be finalized after installation of a permanent ventilation system and the intended use of building is identified by property owner.
August 2005	Pursuant to the Water Board's recommendations in the 2004 MSCA review, and subsequent to Water Board approval, the EAB pilot program was expanded to include groundwater immediately downgradient of the former site source area (around wells T-8A, T-8B, and T-10B) (CDM 2005b and Water Board 2005).
September 2005	As part of the EAB expansion, four additional Zone A wells, T-13A, T-14A, T-15A, and T-16A, and one additional Zone B1 well T-17B, were installed at the site (Northrop Grumman 2006).
April 2006	Pursuant to the Water Board's recommendations in the 2004 MSCA review, Northrop Grumman submitted the Revised Proposed Plan (CDM 2006) to the USEPA to change the groundwater remedy from GWET to in situ bioremediation.
July 2006	Water Board issued a letter to USEPA in which they concurred with conclusions of the Revised Proposed Plan and recommended to USEPA to change the groundwater remedy for the site from GWET to in situ bioremediation (Water Board 2006).

Date	Event
January 2007	EAB performance monitoring showed that EAB continued to improve the groundwater quality and enhance VOC degradation in and around the former site source area; however, VOC degradation had slowed at downgradient portions of the plume due to competing electron acceptors (Northrop Grumman 2007).
June 2007	Northrop Grumman submitted a work plan for additional Zone A EAB remediation activities, which proposed to conduct four quarterly cheese whey injections in the expanded portion of Zone A aquifer downgradient of the former site source area (CDM 2007).
August 2007	Subsequent to Water Board approval (Water Board 2007), CDM installed seven injection wells (T-18A to T-24A) and one monitoring well (T-25A) as part of the downgradient Zone A EAB treatment area.
September 2007	Tamalpais Environmental Consultants (TEC), under CDM's oversight, performed the first of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A (Northrop Grumman 2008).
November 2007	CDM performed a one-time bioaugmentation event into wells T-13A, T-14A, and T-18A through T-24A, using groundwater from the Eductor (Northrop Grumman 2008).
December 2007	TEC, under CDM's oversight, performed the second of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A (Northrop Grumman 2008).
March 2008	TEC, under CDM's oversight, performed the third of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
June 2008	TEC, under CDM's oversight, performed the final of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
May 2009	Northrop Grumman submitted the third and most recent Five-Year Status and Effectiveness Evaluation Report (Five-Year Report) to the Water Board for the review period from May 2004 through December 2008 (CDM 2009a).
September 2009	The Water Board submitted the third Five-Year CERCLA Review report to the USEPA (Water Board 2009).
September 2009	Northrop Grumman submitted updated revised proposed plan for the USEPA (CDM 2009b). This proposed plan updated the original revised proposed plan submitted in April 2006 (CDM 2006). The objective of this updated revised proposed plan was to change the groundwater remedy at the site to in situ bioremediation with MENA.
January 2010	EAB performance monitoring showed significant depletion of electron donor (cheese whey) and initial rebound of competing electron acceptors in the expanded EAB treatment area (AECOM 2010a).

Date	Event
October 2010	AECOM submitted a work plan for additional Zone A EAB remedial activities, which proposed to conduct one emulsified vegetable oil injection and one neat vegetable oil injection in the former site source area excavation (AECOM 2010b).
October 2010	The Water Board approved the work plan (AECOM 2010b) to conduct additional EAB activities at the site (Water Board 2010).
October 2010	AECOM injected emulsified vegetable oil into the Eductor, located in Zone A within the former site source area excavation.
November 2010	Vironex, under AECOM oversight, injected neat vegetable oil into the Eductor, located in Zone A within the former site source area excavation (AECOM 2010c).
November 2011	EHC-L is injected into former cheese-whey injection wells and ABC+ is injected using direct push technology in the downgradient EAB treatment area.
December 2012	6 December 2012 *Requirement for Vapor Intrusion Sampling and Analysis Work Plan and Report* letter from the Water Board (Water Board, 2012).
June 2013	AECOM submits the *Work Plan for Membrane Interface Probe and Remediation Activities at the Former Source Area Excavation* (AECOM, 2013a) to the Water Board.
July 2013	Vironex, under AECOM oversight, performs MIP investigation survey.
August 2013	AECOM submits the *Membrane Interface Probe (MIP) Activities Report* (AECOM, 2013b) to the Water Board.
October 2013	The Water Board approved the *Vapor Intrusion Evaluation Sampling and Analysis Work Plan* (AECOM 2013c) to install sub-slab vapor wells and perform indoor air sampling at the site.
December 2013	Sub-slab vapor wells were installed and sampled and indoor air samples were collected.

2.5 Potential Receptors

As required by the Water Board Order, in 1992, TRW and then current property owner, Tech Facility 1, Inc., prepared and recorded a deed restriction for the property to (Tech Facility 1, 1992):

- Prohibit the use of shallow groundwater for drinking water without approval from Water Board and other agencies with jurisdiction, and
- Notify Water Board before well installation.

This deed restriction continues to be in effect and protects potential human receptors from contacting impacted groundwater at the site. Per the recommendations in the previous Five-Year Review, the current legal owners of the former TRW Microwave property should record a new restrictive covenant that is consistent with current California law (California

Civil Code section 1471, which establishes the framework for environmental covenants in California).

A database search was performed at the SCVWD in January 2000 to locate potential receptors or conduits (i.e., groundwater production wells) within 0.5 mile of the site. Based on the information provided to CDM by the SCVWD and review of previous reports, the nearest public water well (SCVWD #274) is located more than 2,000 feet north and downgradient of the site. The well is screened in the lower aquifer, Zone C, approximately 250 feet below ground surface. As no contamination is identified in Zone B4 and the upper and lower aquifers (i.e., from Zone B to Zone C) are separated by an appreciable aquitard, it is unlikely that contamination from the shallow aquifer at the site has or will impact the public water well (HLA, 1991b). In addition, an internet search performed on the Water Board's Geotracker website (http://geotracker.waterboards.ca.gov) in February 2014 did not show any supply wells downgradient of the site.

To protect potential downgradient receptors, the Three Companies (Northrop Grumman, AMD, and Philips) contribute to the hydraulic containment of impacted groundwater within the defined OOU, downgradient of the Former TRW Microwave, AMD, and Philips sites. The OOU extracts groundwater from a set of wells downgradient of the three companies' sites that prevent the migration of VOC-impacted groundwater beyond (north of) Highway 101.

The existing site building is not equipped for occupancy and would require completion of plumbing, electricity, and mechanical ventilation and other improvements before it was occupied. However, once completed for occupancy, evaluation of the exposure to potential site workers from VOCs via the VI pathway is required prior to occupancy. Sampling was performed in December 2013 to evaluate the current VI pathway in the existing building.

3.0 SUMMARY OF REMEDIATION ACTIVITIES PRIOR TO JANUARY 2009

Prior to January 2009, TRW, and then Northrop Grumman, conducted numerous subsurface investigations to analyze the origin and distribution VOC impacts at the site, and implemented several actions to remove VOCs and monitor their removal. These activities were presented in the first, second, and third Five-Year Reports (WA, 1996a and CDM, 2001a and 2009a) and in the 2004 MSCA review (Water Board, 2004b). A summary of the investigations conducted prior to May 2004 were presented in Section 2.4 of this report. This section presents a discussion of the water-level elevations and VOC groundwater analytical results prior to 2009. Analytical results associated with the EAB program are discussed in Section 3.5.

3.1 Continued Groundwater Monitoring Program

In 1985, TRW implemented a full-scale groundwater monitoring program (WA, 1996a). A site plan showing monitoring well locations is presented in Figure 3. The purpose of the program was to assess the groundwater quality and the hydraulic control of the VOC groundwater plume at the site. Between 1985 and 1992, the groundwater monitoring events were conducted quarterly. In 1992, the Water Board approved a reduced monitoring

program and the groundwater events were conducted on a semi-annual basis. In 1999, the Water Board approved revising the monitoring program to annual groundwater monitoring in October of each year (Water Board, 1999). On-going groundwater monitoring of the onsite wells has been conducted since 1983. The results and findings of the groundwater monitoring are presented to the Water Board in reports following each event. Each report includes a summary of current and historical groundwater elevation and analytical data; current potentiometric surface maps for Zones A, B1, and B2; and the purge and sampling records for the event. The results from this monitoring were most recently presented in the *2013 Annual Groundwater Monitoring Report* (AECOM, 2014). Appendix A presents a summary of well completion information for the site. The following is a summary of the groundwater monitoring program through 2008.

3.2 Groundwater Elevations

Historic groundwater elevation measurements are presented in Appendix B. The historic data include measured depths to groundwater and the calculated water-level elevations recorded for each well since 1986. Hydrographs of water-level elevations versus (vs.) time in selected site wells, including three in Zone A (T-1A, T-7A, and T-8A), three in Zone B1 (T-1B, T-7B, and T-8B), and two in Zone B2 (T-2C and T-11C) are presented on Figure 10. For wells T-8A, T-8B, and T-2C, the hydrographs begin in year 2000, the start of groundwater extraction suspension at these wells. For wells T-1A and T-1B, the hydrographs end in year 2004, when the wells were abandoned. Based on these measurements:

- The regional groundwater movement direction in Zone A was to the north;
- Water levels and groundwater movement in Zones B1 and B2 were substantially impacted by ongoing groundwater extraction conducted at the Philips sites located to the west of the site; and
- Vertical hydraulic gradients were generally downward between the Zone A and Zone B1 intervals and between the Zone B1 and B2 intervals.

3.2.1 Site Groundwater Analytical Results

Historic groundwater analytical results are presented in Appendix C. Charts of TCE and cis-1,2-dichloroethene (cDCE) concentrations versus time for representative onsite wells including six wells in Zone A (T-2A, T-7A, T-8A, T-9A, T-13A, T-15A, and T-16A) and six wells in Zone B1 (T-2B, T-4B, T-7B, T-8B, T-9B, T-10B, and T-17B) are presented in Figures 11 through 14. Figure 15 presents TCE concentrations vs. time for representative on-site Zone B2 wells (T-2C, T-9C, T-10C, T-11C, and T-12C). For selected site wells, trend plots of chlorinated ethene concentrations versus days prior to and after suspension of groundwater extraction are presented in Appendix D. Appendix E includes a summary of the tetrachloroethene (PCE), TCE, cDCE, and vinyl chloride (VC) as well as ethane/ethene (the end product of reductive dechlorination) analytical results for selected wells in micromoles per liter (µM).

The following is a summary of conclusions from the groundwater monitoring program through 2008 (CDM, 2001a; Northrop Grumman, 2005; and, Water Board, 2004b; CDM 2009c).

- VOC concentrations in groundwater samples collected from Zones A and B1 indicated that the impact to groundwater from the former site source area was restricted to a relatively small and localized area.
- Prior to the EAB application, VOC concentrations in groundwater samples collected from Zone A attenuated over an order-of-magnitude within a few hundred feet downgradient of the Eductor, at well T-8A, and also declined substantially within the same lateral distance in Zone B1 (well T-8B). Concentrations decreased more than an order-of-magnitude from the late 1980's through the mid-1990s, and then remained generally stable through 2008.
- Impact to the site from offsite sources was apparent in Zones A (particularly in wells T-7A, 36S, and 37S) and Zone B1 (particularly in well T-5B). Elevated levels of VOCs were detected in groundwater collected from these wells. In addition, during certain monitoring events, VOC levels in these wells exceeded VOC concentrations in wells downgradient of the former site source area (wells T-8A and T-8B).
- Elevated levels of VOCs detected in groundwater samples collected from wells T-2C and T-9B appeared to be caused by pumping of impacted groundwater from offsite sources and are further discussed in Section 4.2.
- Zone B4 on the site continued to show no impact by VOCs.

3.3 Source Removal

After removal of the UST in 1983 and through 1986, TRW conducted investigations of potential impacts to soil and groundwater at the site (WA 1996a). The investigations identified the former UST area as the only source of VOC impact to site groundwater. In 1984, based on the soil investigations to delineate the former site source area (around the former UST area), TRW excavated additional soil that was not removed with the UST in 1983. In total approximately 200 cubic yards of VOC-impacted soil were removed. The excavation was approximately 19 feet by 16 feet in area, and extended to a depth of approximately 18 feet.

Samples of excavated soil were collected during the removal. Total VOC concentrations (primarily TCE) in these samples ranged from 0.45 to 15,730 mg/kg. Based on the amount of soil removed and the soil sample results, an estimated 1,560 pounds of VOCs were removed through source removal. The excavated soil was transported offsite for disposal. The excavation was backfilled with gravel to serve as a pit for groundwater extraction. A vertical PVC pipe was placed in the gravel backfilled pit, from the base of the pit to the surface, for groundwater extraction. The gravel backfilled pit is identified as the Eductor pit and the groundwater extraction pipe as the Eductor. Figure 3 presents the locations of this former site source area excavation (i.e., Eductor pit) and Eductor.

3.4 Operation of Soil Vapor Extraction System

In July 1993, TRW began voluntary SVE from three existing wells (T-2A, T-8A, and the Eductor) to enhance cleanup in the unsaturated zone in the vicinity of the former UST area. The SVE system was permitted to operate by the BAAQMD and consisted of a 5-horsepower (HP), 100 standard cubic feet per minute (scfm) vacuum blower, a knockout drum, and three 200-pound granular activated carbon (GAC) vessels. The system was later upgraded to a 15-HP blower and three 1,200-pound GAC vessels in September 1995. During late 1994 and early 1995, 13 additional SVE points were installed to a depth of about 12 feet bgs with 3 feet of screen at the bottom and were connected to the SVE system. Between July 1993 and July 1996, the SVE system removed approximately 121 pounds of VOCs (expressed as pounds of TCE-equivalent, the main VOC of concern). The cumulative VOC mass removed by the SVE system is summarized in Appendix F.

Following system shutdown, CDM performed rebound testing in September 1997 and July 1998. The rebound tests were performed with the 13 SVE points using a portable vacuum and a field photo-ionization detector.

VOC concentrations decreased from the September 1997 to the July 1998 sampling event. During the 1998 event, all VOC concentrations were 5 parts per million per volume (ppmv) or below except for extraction point MP-1 located directly in the former site source area (gravel UST excavation area backfill). Based on the results of the rebound testing, no significant rebound between the two sampling events occurred.

As discussed in Section 2.4, closure of the SVE system and the vadose zone was requested in August 1998 (CDM, 1998a). Specifically, field testing and analytical data were presented to demonstrate that TRW had fulfilled the Water Board's six criteria for SVE closure and had met the site-specific soil cleanup standard. Based on analytical results from the soil investigations in 1988 and 1996 and groundwater monitoring, the SVE system achieved its two main objectives:

- Enhance removal of VOCs from the vadose zone to meet the Water Board's proposed soil cleanup standard of 1 mg/kg; and
- Reduce the likelihood of VOCs in the vadose zone from negatively impacting the saturated zone, as demonstrated by declining VOC vapor concentrations in the vicinity of the former site source area.

Following the presentation, the Water Board provided verbal authorization to terminate soil remediation and destroy the SVE points at the site. A formal letter from the Water Board stated that cleanup levels for site soil (1 mg/kg total VOCs) had been met and therefore the Water Board approved curtailment of the SVE system (Water Board, 1998). In November 1998, all SVE extraction points, except SVE extraction point MP-1 located in the Eductor pit, were destroyed in accordance with the SCVWD well destruction permits. Well MP-1 was not destroyed at the same time as the other wells because it was inaccessible to drilling and pressure grouting would introduce cement into the highly permeable gravel Eductor pit and could potentially reduce the effectiveness of groundwater extraction at the

Eductor well. Instead, MP-1 was capped at this time. In 2002, during the remodeling of the site building, MP-1 was destroyed by its complete removal.

3.5 Operation of Groundwater Extraction and Treatment System

The GWET system operated at the site from 1985 to April 2001. The GWET system consisted of seven extraction wells completed at three cluster locations (T-2A, B and C; T-8A and B; and, T-9A and B) and the Eductor. Although groundwater extraction no longer occurs at these seven wells and the Eductor, they all continue to be present at the site and are used for groundwater monitoring. Extracted groundwater was treated through an air stripper to remove VOCs. Treated groundwater was discharged to the local storm drain under the site's National Pollution Discharge Elimination System (NPDES) permit. Following treatment, off-gas from the air stripper was discharged to the atmosphere under the site's BAAQMD permit.

Decreases in TCE concentrations were most dramatic during the first five years of system operation (1985 to 1990). During the 1990s, the TCE concentrations appeared to have reached near asymptotic levels, in particular those in the former site source area (Eductor, and wells T-2A and T-2B). In 2000, the annual TCE mass removed was only 30 percent of that removed by the system in 1985. At the time of its suspension in April 2001, the GWET system had removed a total of approximately 28 million, 44 million, and 43 million gallons of groundwater from Zones A, B1, and B2, respectively (total of approximately 115 million gallons of groundwater). Approximately 260, 1,480, and 1,310 pounds of VOCs (expressed as pounds of TCE-equivalent, the main VOC of concern) were removed corresponding to the volume of groundwater extracted from Zones A, B1, and B2, respectively (total of approximately 3,050 pounds of VOCs). The cumulative VOC mass removed by the GWET system is summarized in Appendix G.

Extraction at and near the former site source area (T-2A, T-2B, T-2C, T-8A, T-8B, and the Eductor) was discontinued prior to, or shortly after, the initiation of the EAB pilot program (Water Board 2001b). Extraction from the remaining two extraction wells located near the northern property boundary (T-9A and T-9B) was discontinued in April 2001 to allow for site redevelopment activities (Water Board 2001a). Subsequent approval from the Water Board was received for the continued suspension of groundwater extraction at these two wells, based on evaluation of changes in VOC concentrations after suspension (CDM 2001b and Water Board 2001b). The Water Board directed TRW to continue quarterly groundwater monitoring at the extraction wells to evaluate non-pumping conditions (NPC).

VOC concentrations across the plume continued to decline under EAB and NPC, indicating that the contribution of VOCs to the commingled plume from the site was reduced. The reductions in VOC concentrations in the former site source area were due to the success of the EAB.

Based on continued improvement of groundwater VOC concentrations across the site through 2013, the Water Board continued to support suspension of groundwater extraction

across the other wells through the end of 2005 with continued EAB and NPC evaluations (CDM 2004h and Water Board 2004a).

3.6 Enhanced Anaerobic Bioremediation

Following completion of CDM's Evaluation of Natural Attenuation and Chemical Oxidation Report (CDM, 2000a) and approval from the Water Board (Water Board, 2000), Northrop Grumman (then TRW Inc.) implemented the EAB program at the site. Analytical results for parameters related to the EAB program are presented in Appendix H. The approximate locations of EAB activities performed prior to 2009 (as well as other remedial activities at the site) are presented on Figure 16. The following table presents the chronology of the implementation and progress of the EAB program through the end of 2008:

Date	Report/Letter/Event
March 2000	CDM's report on the evaluation of natural attenuation and chemical oxidation recommended that in situ remediation via EAB be implemented for Zone B1 (CDM, 2000a).
August 2000	CDM submitted a work plan to implement an EAB pilot program in Zone B1 at the former site source area (CDM, 2000c).
October 2000	After verbal approval from the Water Board, CDM implemented the EAB pilot program by injecting polylactate ester (via Regenesis' Hydrogen Release Compound [HRC] products) into Zone B1 in and around the former site source area (see Figure 16).
April 2001	Based on the periodic monitoring of Zone A wells within the EAB treatment area, CDM determined that the limited amount of the HRC product that was injected into Zone A during the injection into Zone B1 had significantly changed conditions in Zone A to support EAB. CDM submitted an addendum to the EAB work plan to inject electron donor into Zone A. The Water Board approved the addendum. (CDM, 2001c and Water Board, 2001b)
June 2001	CDM injected slow-releasing HRC to target Zone A. In addition, injections within the footprint of the former treatment system, which was not possible during October 2000 injection, were advanced into Zone B1.
December 2003, January 2004, and February 2005	The effectiveness monitoring showed that the EAB application increased the rate of chlorinated VOC biodegradation occurring within the former site source area and accelerated VOC attenuation rates across the downgradient portions of the site.
August 2005	Subsequent to Water Board approval (Water Board, 2005), the EAB pilot program was expanded to include groundwater immediately downgradient of the former site source area in Zone A and Zone B1 (CDM, 2005) (see Figure 16).
April 2006	CDM submitted the Revised Proposed Plan to USEPA in order to change the groundwater remedy from GWET to in situ bioremediation (CDM, 2006).

Date	Report/Letter/Event
July 2006	Water Board issued a letter to USEPA in which they concurred with conclusions of the Revised Proposed Plan and recommended to USEPA to change the groundwater remedy for the site from GWET to in situ bioremediation (Water Board, 2006).
January 2007	EAB performance monitoring showed that EAB continues to improve the groundwater quality and enhance VOC degradation in and around the former site source area; however, VOC degradation has slowed at downgradient portions of the plume due to competing electron acceptors (Northrop Grumman, 2007).
June 2007	CDM submitted a work plan for additional Zone A EAB remedial activities, which proposed to conduct four quarterly cheese whey injections in the expanded portion of Zone A downgradient of the former site source area (CDM, 2007).
August 2007	Subsequent to Water Board approval (Water Board, 2007), CDM installed seven injection wells and one monitoring well as part of the downgradient Zone A EAB treatment area.
September 2007	Tamalpais Environmental Consultants (TEC), under CDM's oversight, performed the first of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
November 2007	CDM performed a one-time bioaugmentation event into wells T-13A, T-14A, and T-18A through T-24A, using groundwater from Eductor well.
December 2007	TEC, under CDM's oversight, performed the second of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
March 2008	TEC, under CDM's oversight, performed the third of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.
June 2008	TEC, under CDM's oversight, performed the last of four quarterly cheese whey injection events into wells T-13A, T-14A, and T-18A through T-24A.

3.7 Indoor Air Quality

Human health risk associated with vapor intrusion of TCE was evaluated during two indoor air quality sampling events conducted at the site prior to May 2004 and one additional event in October 2004. Figure 17 shows the locations of the indoor air quality samples collected within and outside the site building during these events. Appendix J presents a summary of the results from the three sampling events.

The first sampling event was conducted in October 2003 and the VOCs detected above their respective indoor air threshold levels included TCE, PCE, VC, and chloroform. A complete presentation of the sample collection, analytical results, and performance analysis of this event were provided to the Water Board in the *Evaluation of Indoor Air Sampling Report* (CDM, 2004a). The results of this investigation indicated that the indoor air VOC

concentrations within the site building would not be above threshold levels after redevelopment of the building with a mechanical ventilation system with an air exchange rate (AER) of at least 1 building volume per hour.

In April 2004, subsequent to Water Board approval (CDM, 2004d and Water Board, 2004c), a temporary mechanical ventilation system was installed and operated within the site building and indoor air samples were collected in order to determine the effectiveness of ventilation on reducing concentrations of VOCs to acceptable levels. In May 2004, the *Report of Findings – Installation and Operation of a Temporary Mechanical Ventilation System and Indoor Air Sampling* was submitted to the Water Board. This report indicated that the rate of VI into the site building appeared to be low enough to be mitigated solely with increased ventilation (CDM, 2004c).

The Water Board (2004d) approved this report in July 2004, but requested additional sampling without mechanical ventilation. A third indoor air quality sampling event was conducted in October 2004 in accordance with a Water Board-approved Work Plan (CDM 2004f and Water Board 2004f). This third round of indoor air sampling was conducted without operation of a mechanical ventilation system to evaluate whether improvement in the groundwater conditions at the site would eliminate the need for any further monitoring of indoor air quality.

In November 2004, the *Report of Findings – October 2004 Indoor Air Sampling* (CDM 2004g) was submitted to the Water Board. The report confirmed conclusions of the earlier report, namely that in the absence of a ventilation system, concentrations of TCE detected in indoor air exceeded the indoor air threshold limits for industrial exposure. However, the report concluded that mitigation of indoor VOC concentrations to below the threshold levels could be achieved solely with installation and operation of a standard ventilation system designed for an AER of 1.

In December 2004, the Water Board approved the November 2004 report; recommended that adequate ventilation be maintained in the site building if occupied in order to minimize risk to the health of building occupants; and requested an additional round of indoor air samples be collected from the building after installation/operation of the ventilation system but before it is occupied (Water Board 200gd). The Water Board further requested that Northrop Grumman prepare a RMP to guide future management of human health risks associated with occupancy of the site building, with particular emphasis on the vapor intrusion pathway.

In April 2005, Northrop Grumman submitted a preliminary draft RMP (CDM 2005a) to the Water Board and property owner. The RMP was to be finalized upon occupancy of the site building, identification of the intended use of the building, and installation of a ventilation system.

Appendix J summarizes the results from previous indoor air sampling events and includes a comparison to current (2013) USEPA Regional Screening Levels (RSLs) and Water Board Environmental Screening Levels (ESLs) for indoor air industrial exposure. As shown on the table, TCE was detected at similar concentrations in all three of the indoor air samples

collected in October 2004, ranging from 4.3 micrograms per cubic meter (µg/m^3) to 5.1 µg/m^3 and was the only analyte that exceeded its 2013 indoor air RSL for industrial exposure of 3 µg/m^3.

4.0 SUMMARY OF REMEDIATION ACTIVITIES SINCE JANUARY 2009

Since January 2009, remediation activities conducted at the site have included: continued suspension of the GWET system, continuation of the groundwater monitoring program (including installation of three new monitoring wells), continued operation and monitoring of the EAB program, a membrane interface probe [MIP] investigation in the former site source area, and indoor air and sub-slab vapor sampling.

4.1 Continued Suspension of Groundwater Extraction and Treatment System

As discussed in Section 3.4, GWET at the site has been suspended since April 2001. Although groundwater extraction at the site had been suspended, Northrop Grumman (and formerly TRW) has continued to monitor groundwater on an annual basis across the site and on a semi-annual basis for selected wells within the EAB treatment area. Northrop Grumman submits monitoring reports to the Water Board annually (AECOM 2010a, 2011a, 2012, 2013d, and 2014). Results from groundwater monitoring performed from 2009 through 2013 continue to support suspension of groundwater extraction at the site. In particular, suspension of groundwater extraction should be continued so as not to interfere with the site EAB program and the capture of offsite plume sources by the Philips 815 groundwater extraction. In line with this discussion, and because the GWET system had not been operated in over 11 years, it was removed from the site in November 2012.

4.2 Continued Groundwater Monitoring Program

Site layout showing monitoring well locations is presented in Figure 3. The results from this monitoring were most recently presented in the *2013 Annual Groundwater Monitoring Report* (AECOM, 2014). In accordance with the Water Board's 17 February 2004 letter, the groundwater monitoring data presented in the annual groundwater monitoring reports also includes data collected for the EAB program and NPC evaluation. The NPC evaluation was initiated in April 2001 and involves evaluation of VOC concentration trends after complete suspension of groundwater extraction at the site. The EAB evaluation involves additional parameters and is further discussed in Section 4.3. In support of the site groundwater monitoring program, two additional monitoring wells were installed up gradient of the site source area in Zone B1 and one additional monitoring well was installed to monitor the effects of the downgradient EAB program. A summary of these well installations and results from the continued groundwater monitoring program are discussed below.

4.2.1 Well Installation

Two new Zone B1 wells were installed in accordance with the Water Board approved November 2011 *Work Plan for Monitoring Well Installation* (AECOM, 2011b) and a

permanent well was installed downgradient of 2011 EAB injections. Drilling was performed on November 12 and 13, 2012. Drilling services were provided by National Exploration, Wells, & Pumps, Inc. of Richmond, California. Geologic logs and well completion details for all three wells were included in the *2012 Annual Groundwater Monitoring Report* (AECOM, 2013d).

The two new groundwater monitoring wells, T-18B and T-19B (Figure 3), were installed in Zone B1 upgradient of the site source area to assess groundwater believed to be entering the site from the east based on the 2011 groundwater surface contours. Based on previous data, it was thought that pumping of Zone B1 by the off-site Philips groundwater extraction system induced a groundwater gradient to the west/northwest. The locations of these new wells were intended to intersect the primary contaminant migration pathways from the upgradient direction beyond the eastern property boundary.

In order to confirm that monitoring wells were screened in the targeted Zone B1, borings were advanced using DPT drilling methods and continuously sampled to evaluate the lithology and identify Zone A and Zone B1. This lithology data was used in conjunction with historic well construction and borehole log data to select the targeted screened interval. Borings T-18B and T-19B were advanced to depths of 50 and 40 feet bgs, respectively. The borings were initially advanced by hand auguring to a depth of approximately 5 feet bgs to avoid subsurface obstructions, and then advanced using DPT. Continuous cores were collected for geologic logging purposes. Borings were logged in general accordance with the Unified Soil Classification System by an AECOM geologist under the supervision of a California Professional Geologist. The DPT borehole was subsequently reamed using hollow-stem auger (HSA) drilling methods. Borehole DPT diameters were 2.75 inches and then reamed using an 8-inch outside-diameter (OD) HSA to allow monitoring well construction.

A third groundwater monitoring well, T-17A, was installed to replace a temporary 1-inch well with pre-packed screen that was initially installed to assess downgradient impacts from the November 2011 additional EAB activities (discussed in detail in Section 4.3). On November 12 and 13, 2012, a HSA drill rig equipped with a drill-out bit was used to over-drill and remove the temporary well and create an 8-inch OD borehole for construction of a standard monitoring well. As with the temporary well, well T-17A was screened from 10 to 20 feet bgs. The HSA drill cuttings were used to describe the lithology and were logged in general accordance with the Unified Soil Classification System by an AECOM geologist under the supervision of a California Professional Geologist.

The following provides a summary of field observations made during monitoring well installation:

- T-17A: The well is screened from 10 to 20 feet bgs. During drilling, groundwater was first encountered at approximately 13 feet bgs. Locally, Zone A appears to be a clayey sand from approximately 15 feet bgs and continues to the total borehole depth of 21 feet bgs.
- T-18B: The well is screened from 41 to 46 feet bgs. During drilling, groundwater was first encountered at approximately 8.5 feet bgs. Locally, Zone B1 appears to be

fine to coarse sandy silt. The upper and lower boundaries of Zone B1 in this location appear to be confined by very stiff, dry silt.

- T-19B: The well is screened from 29 to 39 feet bgs. During drilling, groundwater was first encountered at approximately 10 feet bgs. Locally, Zone B1 appears to be a mixed transition zone characterized by clayey sand above interbedded sandy clay layers within silt. The upper and lower boundaries of Zone B1 in this location appear to be confined by very stiff, dry silt.

As mentioned above, wells T-18B and T-19B were intended to be located upgradient of the site source area in Zone B1. However, once static water levels were measured in these new wells and an updated Zone B1 groundwater surface elevation contour map was prepared, it appears that the new wells may be cross-gradient from the site source area (Figure 8).

4.2.2 Groundwater Elevations

Forty-two (42) wells including the Eductor have been completed at the site in four depth intervals, designated as Zones A, B1, B2, and B4 (Appendix A). Figure 3 shows the site layout and existing well locations. Historic water level elevation data are presented in Appendix B. The data include the measured depths to groundwater and the calculated water-level elevations recorded for each well since 1986, including the October 2013 results. Hydrographs of water-level elevations versus time in representative site wells, including three in Zone A (T-1A, T-7A, and T8A), three in Zone B1 (T-1B, T-7B, and T-8B), and two in Zone B2 (T-2C and T-11C), are presented in Figure 10. For wells T-8A, T-8B, and T-2C, the hydrographs begin in year 2000, the start of groundwater extraction suspension at these wells. For wells T-1A and T-1B, the hydrographs end in year 2004, when the wells were abandoned.

Appendix I presents potentiometric surface contour maps for Zones A, B1, and B2, generated for each of the annual monitoring events conducted during the last five years. Philips and AMD provided Northrop Grumman with their water-level elevation data. Although these data are not included in Appendix I, they were considered during interpretation of potentiometric surface contours near the site boundaries.

From 2009 through 2013, water-level elevation data indicate that the static depth to the water table ranged from 6.2 feet to 9.0 feet bgs. The regional and local direction of groundwater movement in Zone A is to the north at an average horizontal gradient of 0.01 horizontal foot per vertical foot.

Between 2009 and 2012 and prior to the installation of Zone B1 wells T-18B and T-19B, groundwater flow in Zone B1 appeared to be primarily north-northwest. After the installation of these wells, the general groundwater gradient in Zone B1 appears to be to the north based on 2013 water levels (Figure 8). Locally, the groundwater movement in Zone B1 is likely influenced by channelized flow related to stream deposits. Groundwater movement in Zone B2 is to the northwest. Water levels and groundwater movement in Zones B1 and B2 have historically been, and continue to be, affected by groundwater extraction at the Philips sites (815 Stewart Avenue and 440 Wolfe Road).

Between 2009 and 2012, water levels in Zone A increased in elevation by 0.41-foot to 0.77-foot. Water levels in Zone A wells observed during the October 2013 monitoring event decreased in elevation by 0.2-foot to 0.5-foot compared to the October 2012 measurements (excluding the Eductor) but water levels continue to be near the high end of the historic range. Between 2009 and 2012, water levels in Zone B1 increased in elevation by 0.64-foot to 4.22-feet; however, water levels decreased by approximately 0.2 to 0.7 foot between October 2012 and October 2013. Between 2009 and 2012, water levels in Zone B2 increased in elevation by 0.94-foot to 2.17-feet; water levels in Zone B2 wells during October 2013 were lower than October 2012, by approximately 0.2-foot to 0.6-foot.

Vertical hydraulic gradients in primarily the downward direction exist between the Zone A and Zone B1 intervals and between the Zone B1 and Zone B2 intervals. The vertical hydraulic gradient between Zone B4 and the overlying zones is upward. Hydraulic head values measured in October 2013 under NPC, indicate that the current vertical head difference between Zones A and B1 is:

- Approximately 0.2 feet downward in the vicinity of the Eductor (between T-2A and T-2B);
- Fairly neutral in the central site area (between T-8A and T-8B, and T-16A and T-10B) and at the southern property boundary (between T-7A and T-7B); and
- Approximately 0.1 feet downward at the southwestern property boundary (between 37S and T-5B), at the northern property boundary (between T-9A and T-9B), and at the western property boundary (between 38S and T-4B).

These vertical gradients between Zone A and Zone B1 are due to the influence of pumping within Zone B at the nearby Philips site. A downward head difference occurs between Zones B1 and B2 in all areas of the site.

4.2.3 Site Groundwater Analytical Results

Historic VOC results for previous monitoring events performed since 1982, are summarized in Appendix C. Historically, low concentrations of other VOCs (not listed in Appendix C) have occasionally been detected. These VOCs are not listed as they are not associated with site operations and have not been detected above their SCRs.

Graphs of TCE and cDCE concentrations vs. time for representative wells located on site, including seven wells in Zone A (T-2A, T-7A, T-8A, T-9A, T-13A, T-15A, and T-16A) and seven wells in Zone B1 (T-2B, T-4B, T-7B, T-8B, T-9B, T-10B, and T-17B), are presented on Figures 11 through 14. Figure 15 presents TCE concentrations vs. time for representative on-site Zone B2 wells (T-2C, T-9C, T-10C, T-11C, and T-12C).

Graphs of concentrations of tetrachloroethene (PCE), TCE, cDCE, trans-1,2-dichloroethene (tDCE), and VC for October 2013 at select wells in Zone A and Zone B1, along the general groundwater flow direction across the site, are presented in Figures 18 and 19, respectively. Compound-specific isotope analysis (CSIA) results for TCE, cDCE, and VC are also plotted on Figure 18 and are discussed in Section 4.2.2.

For selected site wells, trend plots of chlorinated ethene concentrations prior to and after suspension of groundwater extraction are presented in Appendices D and E.

Groundwater monitoring data collected between January 2009 and December 2013 continue to support the following conclusions:

- The impact to groundwater from the former site source is restricted to a relatively small and localized area near the Eductor.
- Impact to the site from offsite sources continues to be apparent in Zones A, B1, and B2. Continued migration of VOC-impacted groundwater onto the site complicates long-term site groundwater remediation.
- Groundwater quality across the site continues to improve following complete suspension of groundwater extraction and implementation of the EAB program.
- Suspension of groundwater extraction at the Eductor and wells T-2A, T-2B, T-8A, and T-8B, in conjunction with the EAB program, has facilitated an increased rate of VOC biodegradation occurring within the former site source area.
- Suspension of groundwater extraction at wells T-9A, T-9B, and T-2C has halted pumping-induced migration of the Philips 815 plume toward the site.
- Suspension of groundwater extraction has not increased the risk for migration of VOC-containing groundwater from the site to potential downgradient receptors.

4.2.3.1 Site Zone A and Zone B1 Upgradient Wells

Impacts to the site from offsite sources continue to be apparent for Zones A, B1, and B2. Zone A wells 36S, 36D, T-7A, and 37S, located along the upgradient site boundary, indicate migration of VOCs, primarily TCE and cDCE, onto the site. Concentrations of TCE migrating onto the site (particularly from areas around well T-7A) are similar to or greater than those present for wells downgradient of the former site source area (see Figure 18).

Zone A wells 36D and 37S, located along the upgradient site boundary, have had TCE concentrations ranging from 19 micrograms per liter (µg/L) to 95 µg/L and cDCE concentrations ranging from 2.2 µg/L to 40 µg/L over the last five years. TCE and cDCE concentrations for T-7A, located approximately 175 feet upgradient of the former site source area, have varied from 56 µg/L to 220 µg/L and 51 µg/L to 230 µg/L, respectively, over the same time period. In October 2012, TCE and cDCE concentrations were 56 µg/L and 230 µg/L, respectively; notably, this was the only year the cDCE concentration was substantially higher than the TCE concentration and was likely a result of the EAB activities performed at the upgradient AMD site. In October 2013, the concentration of TCE in T-7A increased to 240 µg/L and cDCE decreased to 77 µg/L, suggesting less influence from the EAB program at the AMD site.

Zone B1 wells T-5B and T-7B along the southern site boundary also indicate substantial VOC migration onto the site, primarily due to pumping-induced groundwater flow towards the Philips 815 extraction system. Over the past 5 years, TCE has been detected in well T-5B at concentrations greater than most other wells within the former site source area (1,500 µg/L in 2013) (see Appendix C). Concentrations in this well have fluctuated over time, usually in relation to the operational status of the Phillips 815 groundwater extraction

and treatment system. TCE, cDCE, and Freon 113 concentrations for Zone B1 well T-5B have exhibited fluctuations due to periodic shutdown of the Philips 815 groundwater extraction system, which allowed migration of impacted groundwater from upgradient, offsite source areas onto the site. In 2013, concentrations of TCE, cDCE, and Freon 113 detected in groundwater in well T-5B were 1,500 µg/L, 51 µg/L, and 1,500 µg/L, respectively; similar to concentrations detected in 2012.

In Zone B1 and B2, the historical presence of Freon 113, a VOC which has not been attributed to the former site source area, was previously demonstrated to be related to offsite sources. Historical and current Freon 113 concentration data (Appendix C) from site Zone B1 wells T-5B, T-7B, T-17B, and T-19B and Zone B2 wells T-2C, T-10C, T-11C, and T-12C indicate impact from offsite sources. With the exception of a temporary increase in October 2007, the concentration of Freon 113 in well T-2C steadily decreased since suspension of groundwater extraction at the well and has not been detected since 2011. Two additional Zone B1/B2 wells, T-5B and T-10C, exhibited decreasing trends between October 2008 and October 2011 and have remained generally similar between 2012 and 2013. This finding further supports continued shutdown of onsite extraction in order to prevent further migration of VOCs from off-site sources onto the site.

4.2.3.2 Site Zone A and Zone B1 Former Source Area Wells

As discussed in Section 3.5, monitoring data has shown that the EAB program has had a beneficial impact on groundwater quality in the former site source area. In 2008, TCE concentrations in the Eductor rebounded to 100,000 µg/L, similar to the concentration detected in 1993. In 2009 and 2010, TCE concentrations decreased to non-detect and 2,100 µg/L, respectively. The 2008 through 2010 fluctuations for the Eductor are similar to those observed in 2002 and 2003 and are attributed to one or more of the following: (1) enhanced mass transfer of VOCs into the aqueous phase; (2) increased solubility of VOCs resulting from the presence of metabolic acids; and, (3) VOCs migrating into this area from upgradient, offsite sources as evidenced by the concentrations for upgradient well T-7A (see Figures 11 and 18). Concurrent with decreases in TCE, concentrations of daughter products cDCE and VC significantly increased. In 2010, cDCE and VC concentrations were 78,000 µg/L and 67,000 µg/L, respectively, indicating significant dechlorination of aqueous-phase TCE. A similar trend was observed in the Eductor in 2004 following a significant increase in aqueous-phase TCE concentration in 2003. In October 2010, emulsified and neat vegetable oil were injected in the former source area (discussed in detail in Section 4.3.1) resulting in VOC sequestration and significant decreases in VOCs by October 2011. Between October 2011 and October 2012, concentrations of TCE and cDCE increased by one to two orders of magnitude and the concentration of VC was approximately four times higher. In October 2012, TCE, cDCE, and VC concentrations in the Eductor were 1,200, 83,000, and 5,200 µg/L, respectively.

Prior to 2013, groundwater samples were collected from the middle of the screen interval of the Eductor (approximately 11 feet bgs) using tubing that was lowered through the layer of floating neat vegetable oil. To evaluate sampling depth as a potential cause for the fluctuating VOC concentrations in the Eductor groundwater samples, a modified sampling approach was employed during the October 2013 sampling event. A drop tube (2-inch

PVC) was lowered into the Eductor prior to sampling to protect the sample tubing from exposure to the floating neat vegetable oil; which has sequestered high concentrations of VOCs. Using the drop tube, groundwater samples were collected from two discrete depths within the screen interval of the Eductor, 11 feet bgs (consistent with previous sampling events) and 15 feet bgs (within the original 13 to 16 feet bgs injection interval for the neat vegetable oil). In the sample collected from 11 feet bgs, TCE was not detected above the reporting limit of 500 µg/L and concentrations of cDCE and VC were 29,000 µg/L and 1,800 µg/L, respectively. Compared to October 2012, these concentrations indicated a decrease in VOCs within the Eductor. However, in the sample collected from 15 feet bgs, high concentrations of TCE and cDCE were detected (8,800 µg/L and 160,000 µg/L, respectively), and VC was not detected above the reporting limit of 1,000 µg/L. These sampling results indicate vertical stratification of VOC concentrations in the Eductor, with the shallow sample exhibiting more evidence of biodegradation. The lower sample was collected within the injection interval of the neat vegetable oil where the permeability was significantly reduced after injection. Therefore, the shallow sample is considered more representative of groundwater concentrations that could migrate beyond the former site source area.

In 2009 and 2010, total chlorinated ethene concentrations (primarily cDCE and VC) for Zone A well T-2A and Zone B1 well T-2B, were above pre-EAB conditions contrary to the previous trend of concentrations significantly lower than pre-EAB conditions (see Appendix E). The high concentrations of daughter products were believed to be related to degradation of TCE detected in the adjacent Eductor in October 2008. Following the 2010 EAB activities in the former source area (emulsified and neat vegetable oil injections), cDCE and VC concentrations significantly decreased in both wells T-2A and T-2B. In T-2A, cDCE and VC decreased by more than two orders of magnitude from 8,700 µg/L and 5,400 µg/L in October 2010 (just prior to the EAB activities) to 12 µg/L and 11 µg/L, respectively, in October 2011. In October 2012, concentrations of cDCE and VC in T-2A increased to 120 µg/L and 67 µg/L, respectively. In October 2013, concentrations of cDCE and VC increased again slightly to 340 µg/L and 86 µg/L, respectively. While there have been some increases in cDCE and VC concentrations since October 2011, concentrations are still one to two orders of magnitude below pre-injection (October 2010) levels. In Zone B1 well T-2B, cDCE and VC decreased from 200 µg/L and 260 µg/L in October 2010 to 79 µg/L and 140 µg/L, respectively, in October 2011 even though the 2010 EAB activities were performed in Zone A only. In October 2012, cDCE and VC concentrations remained similar to 2011 values. In October 2013, cDCE and VC concentrations in T-2B increased to 140 µg/L and 150 µg/L, respectively, but were still below pre-injection October 2010 values. TCE concentrations have been below SCRs for wells T-2A and T-2B since 2007.

4.2.3.3 Site Zone A and Zone B1 Downgradient Wells

Downgradient of the former source area, the influence of the EAB program has been more pronounced for Zone B1 than Zone A, consistent with better hydraulic connection and greater transmissivity in the deeper zones. EAB remedial activities, consisting of cheese whey injections, were conducted in downgradient Zone A wells in September 2007, December 2007, March 2008, and June 2008; and subsequent emulsified vegetable oil and neat vegetable oil injections were performed in the former source area in October 2010

(discussed in detail in Section 4.3.2). In November 2011, EHC-L was injected in downgradient Zone A wells; and ABC+ was injected in direct push points downgradient of the source area in Zones A and B1.

In downgradient Zone A monitoring wells, the observed trends since the initiation of the EAB program, including the expansion to encompass areas around well T-8A, are less pronounced than Zone B1 and are perhaps not directly attributable to the EAB program. The EAB process has and continues to remove considerable VOC mass from the former site source area and immediate vicinity. This has reduced the VOC mass migrating to the downgradient site areas. The cessation of groundwater extraction has enhanced conditions by returning the groundwater gradient to its natural condition, allowing for longer residence times between T-8A and T-9A, and hence, higher attenuation potential within these areas. TCE concentrations for well T-9A are consistently lower than the upgradient property boundary well T-7A and total chlorinated ethene concentrations for T-13A, T-14A, T-8A, T-15A, T-16A, and T-9A are less than those for upgradient property boundary well T-7A (see Figure 19 and Appendices D and E).

VOC samples collected from wells T-19A, T-23A, and T-25A in early September 2007 prior to cheese whey injections, contained TCE and cDCE at concentrations ranging from 140 µg/L to 210 µg/L and 21 µg/L to 55 µg/L, respectively. VC was not detected in these wells at that time. Following cheese whey injection in wells T-13A, T-14A, T-19A, T-23A, and T-25A in late September 2007, decreases in TCE concentrations and increases in cDCE concentrations were observed. Starting in April 2010, TCE concentrations in these wells started rebounding with October 2011 concentrations ranging from 28 µg/L to 70 µg/L (with the exception of well T-19A which was 4.1 µg/L). These concentration trends indicated a decrease in dechlorination in the groundwater downgradient of the source area as a result of cheese whey depletion. After injection of additional electron donor (EHC-L) in November 2011, concentrations of TCE decreased in all of the former whey injection wells to below SCRs, except well T-23A. Concentrations of cDCE also decreased in all of the wells with limited VC increases, again with the exception of well T-23A.

Until October 2007, decreases in TCE and cDCE concentrations were observed in well T-8A without detectable concentrations of VC. After cheese whey injections began in September 2007 immediately upgradient of well T-8A, VC was detected in well T-8A at concentrations up to 36 µg/L. In February 2009, TCE and cDCE concentrations were at historical lows of 21 µg/L and 23 µg/L, respectively. These low concentrations of TCE and cDCE and increases in VC were attributed to increased dechlorination under the effect of the cheese whey injections implemented in the area of Zone A wells T-13A and T-14A. After 2009, TCE and cDCE concentrations slowly rebounded and VC concentrations decreased in well T-8A, indicating depletion of the cheese whey in the upgradient injection wells. In November 2011, EHC-L was injected into wells T-13A, T-14A, and T-18A through T-24A (the same wells used for cheese whey injection). Concentrations of TCE, cDCE, and VC detected in T-8A in October 2013 remained roughly equivalent to concentrations prior to the EHC-L injections, indicating that the effects of the EHC-L injections did not reach this location.

In Zone B1, downgradient monitoring well T-8B total chlorinated ethene concentrations in groundwater decreased by more than 50 percent following initiation of Zone B1 EAB activities in 2000 (see Appendix E). Since 2007, TCE concentrations have started to rebound (from 7.5 µg/L in October 2008 to 36 µg/L in October 2013). Concentrations of daughter product cDCE have been increasing in this well since 2009 to the maximum concentration detected in this well (450 µg/L in October 2013). This elevated concentration may be attributable to migration of cDCE from the former site source area and/or related to cDCE migrating on to and through the site from upgradient sources.

In Zone B1 well T-4B, located near the western property boundary, TCE concentrations were below the SCR of 5 µg/L in October 2006 and have since fluctuated between 2.5 µg/L and 9.2 µg/L through 2013. Concentrations of cDCE have been consistently higher since 2006, steadily increasing between October 2010 through October 2013, from 360 µg/L to 830 µg/L, respectively. These increases in cDCE concentrations for well T-4B (and also for T-17B and T-9B) since 2006 may be attributable to migration of EAB dechlorination products (cDCE, VC, and ethene) in groundwater from the former site source area and/or related to cDCE migrating on to and through the site from upgradient sources.

It is suspected that well T-9B was impacted by an offsite source, and that pumping from T-9B induced the migration of VOCs onto the site in Zone B1 from this offsite source (CDM, 1999b and 2000b). This conclusion is based on the historical substantially higher TCE concentrations for T-9B compared to upgradient Zone B1 well T-8B and the historical presence of Freon 113 in T-9B, which is not attributed to the site. The decrease in TCE concentrations following the suspension of groundwater extraction at T-9B, in addition to the results from the more recently installed Zone B1 well T-10B with VOC concentrations similar to or less than T-8B, support the conclusion that groundwater around T-9B is impacted by historical, pumping-induced, migration of the Philips plume onto the site.

4.2.3.4 Site Zone B2 Wells

VOC concentrations for Zone B2 in the central site area have decreased substantially since suspension of groundwater extraction from site well T-2C in November 2000. In October 2013, the TCE concentration in well T-2C decreased from 310 µg/L in October 2012 to 110 µg/L and Freon 113 was not detected.

Concentrations in well T-2C have historically been elevated relative to Zone B1 and have resulted solely from offsite sources, as substantiated by a differing suite of VOCs with differing VOC ratios for Zone B2 relative to overlying Zone B1 (e.g., the presence of Freon 113 in Zone B2, which is not attributed to the site) and the absence of VOCs common to the former site source area (PCE). Groundwater extraction from T-2C in the past is suspected to have contributed to the migration of VOCs onto the site. Since the suspension of groundwater extraction from this well, TCE concentrations have decreased more than 90 percent and Freon 113 was not detected in October 2012 or October 2013. These decreases are attributed to capture of a significant portion of the plume by the Philips 815 site extraction system.

4.3 Continued Enhanced Anaerobic Biodegradation Program

As mentioned above, the EAB program has continued at the site through 2013 and has consisted of semiannual groundwater monitoring events and two additional injection events. The locations of the EAB injection events conducted between 2009 and 2013 are presented on Figure 20. This section describes the source area (Section 4.3.1) and downgradient area (Section 4.3.2) EAB injection events and then provides a summary of EAB monitoring results over the past 5 years (Section 4.3.3).

4.3.1 Source Area Activities

Based on elevated VOC concentrations detected in the Eductor between 2008 and 2010, additional source area treatment was performed. To treat the residual VOC contaminant mass and supply a slow-release electron donor to sustain EAB within the former source area and down gradient, emulsified vegetable oil (EVO) and neat (not emulsified) vegetable oil were injected into the Eductor.

With the Water Board's approval of the letter work plan (AECOM, 2010b) for additional EAB remedial activities (October 19, 2010 email from Mr. Max Shahbazian to Northrop Grumman), EVO was injected into the Eductor on October 18 and 19, 2010 and neat vegetable oil was injected into the Eductor from November 15 to 17, 2010. Injection of the less viscous and more easily distributed EVO was performed first to facilitate distribution of electron donor throughout the former excavation that was backfilled with pea gravel. Injection of the more viscous neat vegetable oil was performed second to sequester high concentrations of VOCs and provide a longer lasting electron donor for sustaining conditions conducive to EAB.

Prior to injection of EVO, the excavation was dewatered by extracting approximately 2,600 gallons of groundwater from the Eductor. Approximately 50 gallons of EVO and one gallon of magnesium hydroxide (for pH control) were mixed in line with approximately 1,000 gallons of extracted groundwater using a chemical metering device and injected at approximately 4.5 to 9.5 gallons per minute (gpm) into the Eductor. Following injection of the EVO, the remaining extracted groundwater (approximately 1,600 gallons) was injected as chase water to distribute the EVO to the edges of the excavation. Fluorescein (yellow/green) dye was injected concurrently with the EVO as a tracer to monitor arrival of the EVO at wells T-2A and T-2B, located just outside the downgradient edge of the excavation. On October 21, 2010, immediately following the EVO injection, groundwater samples were collected from the Eductor, T-2A, and T-2B and analyzed for field parameters, total organic carbon (TOC), and the presence of fluorescein dye. Fluorescein dye was observed in the field in wells T-2A and T-2B, indicating distribution of EVO to the edges of the excavation.

One month after the EVO injection and one day before the neat vegetable oil injection, groundwater samples were collected from the Eductor, T-2A, and T-2B and analyzed for field parameters, VOCs, dissolved gases, TOC, and alkalinity to document conditions prior to the neat vegetable oil injection. Once groundwater sampling was complete,

approximately 2,700 gallons of groundwater were extracted from the Eductor and stored in a polyethylene tank. Following extraction, a packer was installed in the Eductor to isolate and pressurize injection of the neat vegetable oil between 13 and 16.5 feet below the top of the casing to focus the injection across the bottom of the excavation. Approximately 440 gallons of neat food-grade vegetable oil were injected into the Eductor with an average injection rate of 4.5 gpm and an average injection pressure of 30 pounds per square inch (psi). Following injection of the neat vegetable oil, the 2,700 gallons of extracted groundwater were mixed with 50 pounds of sodium bicarbonate (for pH control) and injected at approximately 10 to 20 gpm and 30 to 40 psi to push the oil further away from the Eductor into the excavation.

Performance monitoring for the EVO and neat vegetable oil injections continued through 2013 and were incorporated into the ongoing semiannual EAB monitoring program approved by the Water Board (Water Board 2007). In addition, one stand-alone performance monitoring event was performed in March 2011, approximately three months after the neat vegetable oil injection. Photographs of injection activities are presented in Appendix K.

4.3.2 Downgradient Area Activities

In October 2010, concentrations of cDCE and VC detected downgradient of the EAB treatment area were higher than those coming onsite. Therefore, to facilitate complete degradation of these daughter products, additional EAB activities were performed in November 2011 downgradient of the former source area. Redox compound EHC-L and ABC+ were injected to create a biobarrier perpendicular to groundwater flow downgradient of the former source area (Figure 21). EHC-L and ABC+ both stimulate biological and abiotic degradation of chlorinated solvents. EHC-L contains a soluble carbon substrate and soluble (ferrous) iron while ABC+ contains a soluble carbon substrate referred to as ABC (25 percent) and micro-scale zero valent iron (ZVI) (75 percent). The benefit of using these types of amendments is that they typically accelerate degradation of chlorinated solvents compared to carbon substrate alone and limit generation of unwanted daughter products such as cDCE and VC by stimulating the abiotic pathway as well as the biological pathway. Injection photos are included in Appendix G.

With the Water Board's approval of the letter work plan (AECOM 2011c) for additional EAB remedial activities (November 14, 2011 email from Mr. Max Shahbazian to Northrop Grumman), EHC-L was injected into Zone A via the nine former cheese whey injection wells (T-13A, T-14A, and T-18A through T-24A) and ABC+ was injected into Zone A and Zone B1 via nine direct push locations from November 16 through 20, 2011. Prior to injection activities, temporary well T-17A (which was later completed as a permanent well [Section 4.2.1]) was installed and sampled for VOCs, sulfate, dissolved gases, TOC and microbial population to document conditions prior to the injection. Figure 21 shows the November 2011 injection locations and well T-17A.

The EHC-L was comprised of two components, a viscous liquid (EHC-L) and a powder (EHC-L Mix). For each injection well, 1.4 drums of EHC-L and 1.4 bags of EHC-L Mix were combined with potable water to make 500 gallons of solution. This solution was then

injected under pressure (30-60 psi) using a diaphragm pump at a rate of approximately 7 gallons per minute (gpm). Injection totals are listed below.

Material	Amount per Well	Total Injected
Water (approximate)	430 gallons	3,870 gallons
EHC-L	607 pounds	5,460 pounds
EHC-L Mix	35.5 pounds	320 pounds

ABC solution was mixed in 500-gallon batches, with each batch containing 474 gallons of potable water and 26 gallons of ABC (soluble carbon substrate). For each injection interval, 50 gallons of this solution was combined with 75 pounds of ZVI and 2 pounds of guar (a biodegradable food-grade substance used to keep the ZVI in suspension) in a ChemGrout mixer and then injected via direct push. Injection pressures ranged from less than 25 psi to 100 psi. Total injection quantities are summarized below.

Material Injected	Amount per Direct Push Location	Total Amount Injected
Water	568.75 gallons	4,550 gallons
ABC	31.25 gallons	250 gallons
ZVI	900 pounds	7,200 pounds
Guar	28.75 pounds	230 pounds

ABC+ was injected at nine direct push locations (including eight planned injection points and one replacement point, described in detail below). Due to the location of several underground utilities, dense vegetation, and landscaping at the site, the planned direct push locations were moved to the most feasible locations, spaced between 7 feet and 12 feet apart and ending approximately 20 feet from the property line (Figure 21). Several underground utilities and dense vegetation located between Injection Point 8 and the property line prevented injection in that area.

Each direct push injection location was designed to include 12 vertical intervals from 35 feet bgs to 7.5 feet bgs, with each interval separated by 2.5 feet. To prevent short-circuiting and surfacing of ABC+ solution, the shallowest interval (7.5 feet bgs) was injected first after which the rods were removed and the top of the hole was packed with bentonite to create a seal. The injection rod was then advanced to the total depth (35 feet bgs) in the same hole and the injection proceeded from the bottom up in the remaining injection intervals. Photographs of injection activities are presented in Appendix K.

4.3.3 EAB Monitoring Results

This section presents a summary of the EAB program results, which include natural attenuation parameters such as geochemical parameters, electron acceptors, and metabolic by-products, and dechlorinating microbes. Monitoring results from these other parameters further support the VOC data in demonstrating the effectiveness of EAB. A detailed discussion of the relevance of the individual parameters was presented in CDM's *Evaluation of Natural Attenuation and Chemical Oxidation Report* (CDM, 2000a). Historic results for previous pre- and post- EAB monitoring events performed since 2000 are summarized in Appendix H.

Groundwater EAB monitoring data collected between January 2009 and December 2013 for the source area and downgradient EAB wells are summarized below:

- Groundwater temperatures in the EAB area ranged from 15.8 to 22.6 degrees Celsius. All temperatures were within the optimum range of 5 to 25 degrees Celsius for biological processes.
- Groundwater pH values ranged from 4.9 to 7.2 in the Eductor and from 6.4 to 7.4 in the other EAB wells. Outside of the Eductor, these values fell within the generally accepted optimal pH range of 6 to 8 and are not expected to negatively influence the biological activity.
- Groundwater oxidation-reduction potential (ORP) levels ranged from -303 millivolts (mV) to 11 mV. Low or negative ORP values are indicative of a reducing environment favorable for biodegradation of chlorinated ethenes.
- TOC concentrations ranged from non-detect (less than 1 milligram per liter [mg/L]) to 3,600 mg/L. TOC consists of organic compounds, which are utilized in the dechlorination of VOCs.
- The dissolved oxygen (DO) concentrations within the former site source area ranged from 0.1 to 3.3 mg/L, but have generally been less than 0.5 mg/L, with some exceptions of anomalous high DO readings in 2010 due to source area injection activities. At DO concentrations less than 0.5 mg/L, anaerobic conditions prevail and aerobic respiration will be minimal.
- Since January 2009, the range of groundwater sulfate concentrations for the Eductor was 0.99 mg/L (estimated concentration) to 8.2 mg/L. The maximum groundwater sulfate concentrations, detected in wells T-2A and T-2B, were 88 mg/L and 230 mg/L, respectively. Sulfate is a competing electron acceptor that can limit reductive dechlorination.
- Methane concentrations ranged from 47 to 13,000 µg/L. Elevated methane levels in impacted groundwater are an indication of methanogenic microbial activity.

4.4 Expanded Source Area Investigation

In July 2013, a MIP investigation was performed in the vicinity of the former site source area. The primary purpose of the MIP investigation was to identify and delineate any remaining VOC-impacted material immediately adjacent to the former excavation. The investigation was conducted in accordance with the Water Board approved *Work Plan for*

MIP and Remediation Activities at the Former Source Area Excavation (AECOM 2013x). Six MIP points were advanced through Zones A and B1 using direct push methods. One continuous soil core was also collected and nearby MIP results were used to select intervals for soil sample collection and VOC analysis. Locations of the MIP and soil boring are shown on Figure 22. VOCs were detected in the MIP points and soil samples; however, there was no evidence of remaining high-concentration VOC-impacted material in the vicinity of the original excavation. The complete results of the investigation were presented in the *Membrane Interface Probe (MIP) Activities Report* (AECOM 2013b).

4.5 Indoor Air Quality

In response to requests by the USEPA and Water Board, a sampling event was performed in December 2013 to evaluate the current vapor intrusion pathway at the site. The sampling was performed in accordance with the *Vapor Intrusion Evaluation Sampling and Analysis Work Plan* (AECOM 2013c) which followed VI guidance in the *Advisory – Active Soil Gas Investigations* (Cal-EPA 2012) and the *OSWER Final Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Sources to Indoor Air* (External Review Draft dated April 2013, USEPA 2013a), the *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (DTSC 2011a), and the *Vapor Intrusion Mitigation Advisory* (DTSC 2011b). Field activities included the installation and sampling of four sub-slab vapor wells and the collection of four indoor air samples and one outdoor ambient air sample. Sampling locations are shown on Figure 23. The results of this sampling event will be included in the next five year review report.

5.0 REMEDIATION EFFECTIVENESS EVALUATION

This section presents an evaluation of the effectiveness of remedial actions at the site including the previous groundwater extraction system and current EAB program. In addition, this section presents an evaluation of the effectiveness of the overall remedial actions in supporting enhanced natural attenuation for the site. The combined past and on-going removal/treatment of VOCs has significantly reduced and continues to reduce the mass of VOCs at and in the near vicinity of the former site source area.

5.1 Effectiveness of Groundwater Extraction and Treatment

As discussed in Section 4.1, VOC results since April 2001 continue to support suspension of groundwater extraction at the site. In particular, suspension of groundwater extraction should be continued so as not to interfere with:

- The robust biodegradation processes present within the EAB program treatment areas, particularly within the former site source area where the highest mass removal is occurring;
- The enhanced attenuation conditions present in the onsite, Zone A downgradient areas, which have resulted from both reduction of VOC mass flux from the EAB treatment areas and increased attenuation potential from suspension of extraction; and,

- The capture of offsite plume sources by the Philips 815 Stewart Drive site Zone B1 and Zone B2 groundwater extraction system.

5.2 Effectiveness of Enhanced Anaerobic Bioremediation Program

The intent of this section is to evaluate the EAB program's ability to (1) sustain conditions that provide complete reductive dechlorination of VOCs in groundwater; (2) maintain SCRs where they have been achieved; and, (3) influence downgradient groundwater conditions. A detailed discussion of the relevance of the individual EAB analyses was presented in the *Evaluation of Natural Attenuation and Chemical Oxidation Report* (CDM, 2000a). A detailed discussion of the EAB process, and groundwater oxidizing and reducing conditions was presented in the work plan for the initial EAB program (CDM, 2000c).

Section 4.3.3 presents a discussion of the 2009 through 2013 VOC results associated with the EAB program. This section presents a discussion of the other EAB program results, such as VOC concentrations detected in the floating neat vegetable oil in the Eductor, geochemical parameters, electron acceptors, metabolic by-products, electron donor indicators like TOC, dechlorinating microbes, and CSIA. These results represent groundwater conditions before and after the 2010 EVO and neat vegetable oil injections and the November 2011 EHC-L and ABC+ injections. The historical analytical results for pre- and post-EAB monitoring events performed since 2000 are presented in Appendix H.

Ability to Sustain EAB Conditions

Following the 2010 EVO and neat vegetable oil injections, biogeochemical data indicate that within the vicinity of the Eductor, T-2A, and T-2B, conditions remained favorable for reductive dechlorination through 2013 (with the exception of the continuing sub-optimal pH in the Eductor). Downgradient of the former site source area, methane remained present within the area impacted by the November 2011 EHC-L and ABC+ injections for both Zones A and B1, but sulfate rebounded in most of the wells by October 2013, making conditions less ideal for complete reductive dechlorination. This is consistent with decreasing TOC concentrations in most of the injection wells, indicating that sufficient hydrogen (electron donor) may not be readily available to satisfy the demand of competing electron acceptor processes. It is important to note that a benefit of EHC-L and ABC+ is that these products also stimulate the abiotic reduction of chlorinated solvents (due to the iron present in their formulations), which is not as affected by the presence of sulfate. This could account for the continued reductions of chlorinated solvents observed in some of the EHC-L injection wells through October 2013.

As mentioned in Section 4.3.2.2, the elevated TCE concentrations detected in the Eductor in October 2008 (100,000 µg/L) decreased significantly through October 2010 with a coincident and significant increase in cDCE, VC, and ethene concentrations. In October 2011, VOC concentrations in the Eductor decreased significantly from October 2010 levels in response to the EVO and neat vegetable oil injections, with TCE decreasing from 2,100 to 54 µg/L, cDCE decreasing from 78,000 to 8,000 µg/L, and VC decreasing from 67,000 to 1,100 µg/L. While these significant decreases were due, at least in part, to the neat vegetable oil sequestering high concentrations of VOCs, continued detections of ethene

indicate on-going reductive dechlorination as well. In October 2012, concentrations of TCE, cDCE, and VC in the Eductor increased to 1,200 µg/L, 83,000 µg/L, and 5,200 µg/L, respectively. Based on the 11-foot groundwater sample collected from the Eductor in October 2013, concentrations of TCE, cDCE, and VC steadily declined from October 2012 values to below the reporting limit (500 µg/L), 29,000 µg/L, and 1,800 µg/L, respectively. These data indicate that contaminant mass continues to be significantly reduced within the vicinity of the Eductor three years after the EVO and neat vegetable oil injections.

In March 2011, four months after the neat vegetable oil injection, floating vegetable oil was present in the Eductor and a sample of it was collected and analyzed for chlorinated VOCs. Results indicated that the floating vegetable oil contained 38,000 micrograms per kilogram (µg/kg) (equivalent to 34,200 µg/L) of TCE and 110,000 µg/kg (equivalent to 99,000 µg/L) of cDCE. In October 2012, analysis of the floating vegetable oil showed that concentrations of TCE and cDCE in the oil increased to 90,000 µg/kg (equivalent to 81,000 µg/L) and 180,000 µg/kg (equivalent to 162,000 µg/L), respectively. In October 2013, concentrations of both TCE and cDCE remained similar to October 2012 with TCE detected at 79,000 µg/kg (equivalent to 71,100 µg/L) and cDCE detected at 140,000 µg/kg (equivalent to 126,000 µg/L). PCE was detected in the floating vegetable oil for the first time in October 2012 (12,000 µg/kg, equivalent to 10,800 µg/L); however, PCE was not detected in October 2013. The elevated VOC concentrations indicate that the injected neat vegetable oil has carried sequestered contaminants from the targeted injection zone at the bottom of the former excavation into the floating vegetable oil detected in the Eductor. While TCE groundwater concentrations have been one to two orders of magnitude lower than cDCE groundwater concentrations in the Eductor since October 2009, significant TCE concentrations have been detected in the vegetable oil samples. This indicates that the vegetable oil is sequestering parent compound TCE prior to undergoing significant dechlorination in the dissolved phase.

As discussed in Section 4.3.2.2, the significant impacts of the 2010 EVO and neat vegetable oil injections observed in the Eductor were also observed in wells T-2A and T-2B located immediately downgradient of the former site source area. Following the October 2010 injections, cDCE and VC concentrations decreased by at least three orders of magnitude in T-2A by March 2011 and were reduced approximately 50 percent in T-2B, even though Zone B1 was not targeted for treatment. While both wells showed some increases in 2012 and 2013, cDCE and VC concentrations in T-2A were still one to two orders of magnitude lower than pre-injection concentrations in October 2013. Continuing detections of ethene in wells T-2A and T-2B suggest that EAB is ongoing. Geochemical conditions near well T-2A remain conducive to EAB, with a DO concentration less than 0.5 mg/L, an ORP value less than -100 millivolts, and an elevated methane concentration.

The TOC concentration trends in wells T-2A, and T-2B and the Eductor are generally in line with VOC trends in these wells. In the Eductor, TOC increased from 280 mg/L in October 2010 prior to injection to 3,600 mg/L following the EVO and neat vegetable oil injections and then decreased steadily to 1,390 mg/L in October 2013, with the exception of low concentrations detected in October 2011 and October 2012. Decreasing TOC concentrations indicate utilization of the carbon source to enhance degradation processes. In Well T-2A,

TOC concentration trends in well T-2A were similar to the Eductor as TOC increased from 4.8 mg/L in October 2010 to 180 mg/L following the EVO and neat vegetable oil injections followed by a decrease to 4.8 mg/L in October 2012 as robust degradation occurred. TOC concentrations remained generally unchanged (less than 10 mg/L) between October 2011 and October 2013, suggesting that either the vegetable oil remains within the former source area excavation and has not undergone significant degradation or the metabolic acids generated from degrading vegetable oil are being consumed as rapidly as they are being generated. In Well T-2B, TOC concentrations increased from non-detect to 27 mg/L following injection of the less viscous and more mobile EVO, but following the neat vegetable oil injection, TOC concentrations were 2.2 mg/L or less through October 2013. These TOC concentrations explain the temporary increase in microbial activity and contaminant reduction followed by the onset of rebound in well T-2B. TOC concentrations for the EHC-L injection wells increased up to 34 mg/L in April 2012 following EHC-L injection and decreased to below 10 mg/L in all of the wells by October 2012 and remained below 10 mg/L through October 2013. These decreases in TOC concentrations, corresponding decreases in contaminant concentrations, and increased production of daughter products (VC) suggest that electron donor is being utilized to facilitate reductive dechlorination of VOCs.

The population count of *Dehalococcodies* (Dhc) type microbes for the Eductor decreased following the 2010 EVO and neat vegetable oil injections from 2.78E+06 cells per milliliter (cells/mL) in October 2010 to 8.35E+01 cells/mL in October 2011. In October 2012, the population increased by an order of magnitude to 4.88E+02 cells/mL; however, the population decreased again to 1.47E+01 cells/mL in October 2013. Although the Dhc population decreased in the Eductor, it significantly increased in well T-2A from 1.10E+03 cells/mL in October 2010 to 2.67E+05 in October 2011 following the vegetable oil injections. The population detected in October 2012 (1.23E+05 cells/mL) was essentially the same as the population detected in October 2011. Between October 2012 and October 2013, the population decreased by three orders of magnitude to 6.22E+02 cells/mL. Low VOC and TOC concentrations as well as a decrease in pH since October 2012 could be contributing to the decrease in Dhc population. Dhc was detected in the EHC-L injection wells in October 2013, at population counts up to 2.33E+03 (T-23A). The Dhc concentration trends over time for the Eductor and selected Zone A wells within the expanded EAB treatment area are presented in Figure 24.

The results of EAB monitoring program following the 2010 and 2011 injection activities indicate significant reductions in contaminant mass and maintenance of conditions conducive to EAB in the vicinity of the former site source area and downgradient EHC-L injection area. As discussed in Section 4.3.2.2, effects of the 2010 vegetable oil injections were not realized in downgradient wells and influence from the EHC-L and ABC+ injections had not extended significantly downgradient of the injection locations as of October 2013.

Ability to Maintain SCRs

While the 2010 EVO and neat vegetable oil injections in the Eductor significantly reduced contaminant mass in the former site source area and EHC-L/ABC+ injections increased reductive dechlorination downgradient of the site source area, groundwater containing TCE and cDCE above SCRs continues to migrate into the onsite EAB treatment area from

upgradient, offsite sources (as discussed in Section 4.2.3.1). Therefore, maintaining site VOC concentrations at or below the currently established SCRs for the Eductor and downgradient wells (e.g., T-2A, T-8A, etc.) and for Zone B1 is not likely attainable.

For Zone B1, the Philips 815 extraction system continues to influence groundwater movement at the site (as discussed in Section 3.1). Well T-7B has VOCs above SCRs, similar to those present for the upgradient offsite well 23-D, located about 400 feet to the south of T-7B.

In absence of complete remediation of upgradient offsite plumes, an attainable goal for the site EAB program is to reduce site VOC mass such that the attenuation rate of VOCs across the site can be attributed solely to the attenuation dynamics of the upgradient offsite plumes (i.e., decreases in VOC concentrations to background levels [concentrations migrating onsite from upgradient offsite sources]).

Ability to Influence Downgradient Groundwater Conditions

The goal of the EAB program is to reduce contaminant mass in and near the former site source area to facilitate enhanced attenuation of contaminants downgradient. With respect to this goal, the EAB program has been and continues to be successful in influencing downgradient groundwater conditions. As the 2010 EVO/neat vegetable oil injections and 2011 EHC-L and ABC+ injections mature and VOC biodegradation continues, Zone A groundwater quality is expected to continue improving in downgradient areas.

Since 2006, TCE and cDCE concentrations for downgradient well T-9A continue to show no trend, ranging from 47 µg/L to 130 µg/L and 82 µg/L to 190 µg/L, respectively, which are similar to pre-EAB concentrations in October 2000. However, these TCE concentrations have been and continue to be less than concentrations for upgradient well T-7A, which during the same period had TCE concentrations ranging from 56 µg/L to 430 µg/L. Concentrations of cDCE in T-9A continue to be similar to or less than those detected in upgradient well T-7A (ranging from 51 µg/L to 230 µg/L since 2006). As total VOC concentrations are less for T-9A compared to T-7A, it appears that offsite VOC mass is being significantly attenuated as it migrates through the site, primarily through biodegradation in the EAB treatment areas. This attenuation is occurring even with potential contribution from the site and contribution from upgradient off-site sources. It is important to note that in October 2012, cDCE concentrations were significantly higher than TCE concentrations in well T-7A for the first time. This was likely the result of EAB activities being performed at the upgradient AMD property, resulting in reductive dechlorination of TCE to cDCE. However, in October 2013, cDCE concentrations decreased to significantly less than TCE concentrations, suggesting less influence from the EAB activities performed at the AMD site. However, as EAB activities at the AMD site are ongoing and this groundwater continues to migrate onsite from upgradient, it may start to confound comparison of VOC concentrations in wells T-7A and T-9A as well as evaluation of onsite EAB activities.

In order to better understand and quantify allocation of upgradient offsite plume and former site source area contributions to current site plume configuration, as well as evaluate the

effectiveness of past and ongoing EAB processes, monitoring of CSIA of TCE and cDCE was initiated in 2007. Carbon isotopes present in TCE and cDCE include ^{13}C and ^{12}C, with ^{13}C being the much less naturally abundant isotope. During anaerobic microbial reductive dechlorination of chlorinated compounds, the light (^{12}C) versus the heavy isotope (^{13}C) bonds are preferentially degraded, resulting in isotopic enrichment of the residual contaminant in ^{13}C and a change in the isotopic ratio of $^{13}C/^{12}C$, also known as $\delta^{13}C$. CSIA measures the $\delta^{13}C$ in a groundwater sample (with units of $^{0}/_{00}$) using the following equation:

$$\delta^{13}C \text{ in } ‰ = \frac{(^{13}C/\,^{12}C_{\text{ sample}} - {}^{13}C/\,^{12}C_{\text{standard}})}{{}^{13}C/\,^{12}C_{\text{ standard}}} \times 1000$$

For chlorinated compounds, $\delta^{13}C$ is typically a negative number that increases, or becomes less negative, as the compound is degraded and becomes enriched with ^{13}C (heavier).

Samples for CSIA analysis have been collected from selected site wells in July 2007, October 2007, July 2008, October 2008, October 2009, October 2010, October 2011, October 2012, and October 2013 and results are summarized in Appendix H. In October 2013, groundwater samples were collected from Zone A wells across the site in the direction of groundwater flow and results are plotted on Figure 18 along with VOC concentrations. Groundwater samples were also collected from select Zone B1 wells for the first time in October 2013 to start compiling a CSIA dataset for Zone B1. Results for Zone B1 are included in Appendix H but will not be discussed or interpreted until additional rounds of CSIA sampling are performed.

The Zone A CSIA data were collected in order to further evaluate the following conclusions:

- Even though TCE concentrations are higher for the former site source area (Eductor) than in upgradient well T-7A, the degree of TCE biodegradation (i.e., TCE dechlorination to cDCE, VC, and ethene) is higher for former site source area groundwater compared to that migrating on to the site from the upgradient offsite plume. This can be demonstrated by showing that the groundwater migrating on to the site from the upgradient offsite plume (T-7A) is lighter (more negative $\delta^{13}C$) than former site source area groundwater (Eductor) with respect to the stable isotope ratio $\delta^{13}C$ for parent compound TCE. CSIA data continue to support this conclusion. In October 2013, $\delta^{13}C$ values for TCE and cDCE indicate that the compounds continue to be more degraded in the vicinity of the former site source area (i.e., well T-2A) compared to groundwater migrating on to the site (i.e. well T-7A) (Figure 18).
- Even though TCE fluctuations in the Eductor have occurred periodically since 2003, biodegradation processes in the immediate vicinity of the Eductor are sufficient to prevent further downgradient migration of TCE. This can be demonstrated by

comparing the CSIA data of the Eductor and well T-2A, located immediately downgradient of the Eductor. CSIA data collected to date strongly support this conclusion with TCE and cDCE in well T-2A being significantly more degraded (more positive $\delta^{13}C$) than TCE and cDCE in the Eductor since April 2008. It is also important to note that the 2010 EVO and neat vegetable oil injections appear to have had a dramatic impact on degradation of cDCE near T-2A in particular with the $\delta^{13}C$ values for cDCE increasing from -11.85 $^{0}/_{00}$ in October 2010 to 2.21 $^{0}/_{00}$ in October 2011. In October 2012, the $\delta^{13}C$ value for cDCE decreased to -6.42 $^{0}/_{00}$ (less degraded than in October 2011) and then increased to -3.23 $^{0}/_{00}$ in October 2013, showing that cDCE in the vicinity of the Eductor is continuing to degrade three years after the EVO and neat vegetable oil injection. Also of note, the $\delta^{13}C$ values for cDCE and VC in EHC-L injection well T-13A (located directly downgradient from the Eductor and well T-2A) increased significantly between October 2011 and October 2012 (from -15.39 $^{0}/_{00}$ to 9.45 $^{0}/_{00}$ and from -25.31 $^{0}/_{00}$ to -0.93 $^{0}/_{00}$, respectively) indicating that the cDCE and VC detected in this well are highly degraded due to the EHC-L injection. In October 2013, the $\delta^{13}C$ value for cDCE in this well decreased to -1.86 $^{0}/_{00}$ indicating less degradation than in 2012, but still highly degraded cDCE compared to pre-injection values.

EAB processes are sufficient to ensure that contaminant mass from the former site source area is not significantly contributing to the offsite groundwater plume. This can be demonstrated by showing that the groundwater migrating downgradient from the site is similar or heavier for $\delta^{13}C$ for TCE and cDCE than that migrating onto the site from the upgradient offsite plume, as shown on Figure 12. According to available guidance on CSIA data interpretation (USEPA, 2008), differences in $\delta^{13}C$ values must be at a minimum greater than $1^{0}/_{00}$ to be considered real and greater than 2 $^{0}/_{00}$ for positive identification of degradation. Therefore, if $\delta^{13}C$ values for downgradient wells T-8A and T-9A are similar to (within $1^{0}/_{00}$) or less negative (by at least 2 $^{0}/_{00}$) than $\delta^{13}C$ values for wells located outside the influence of the former site source area (e.g., T-7A and T-3A), current EAB processes will be considered sufficient to limit contribution of contamination from the former site source area to the offsite groundwater plume. These data coupled with VOC concentration trend analysis (see Figure 18) and demonstration of conditions favorable for biodegradation, can demonstrate the attainment of background conditions or that background conditions will be achieved within a reasonable time period. CSIA data collected in 2013 support this conclusion.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This section presents AECOM's conclusions regarding the GWET system and the EAB program as well as recommendations for changing the site groundwater remedy from GWET system to EAB with continued groundwater monitoring.

The offsite Philips extraction system currently maintains capture of the offsite contamination present in Zone B2 at the site, and the onsite and offsite contamination present in Zone B1. These capture zones extend onto the site by design in order to maintain effective capture of offsite Philips source areas.

Since suspension of the onsite GWET system in 2001, the Zone A EAB processes induced across the site have been more effective in reducing VOC mass within the treatment areas. With the EAB program, the rate of VOC dechlorination increased in all wells and the main parent compounds (PCE and TCE) were reduced by several orders of magnitude within and downgradient of the source area. The decreases in the parent compounds were supported by increases in daughter compounds (cDCE, VC, and ethane/ethene).

Based on the VOC concentrations still observed in the Eductor, it is likely that some high concentration VOC-impacted material remains in the vicinity of the original excavation. The MIP investigation performed in 2013 found no evidence of high concentration material outside the upgradient edge of the original excavation; therefore, it is highly likely that high concentration VOC-impacted materials are present within, or perhaps beneath, the original excavation. Based on this information, AECOM recommends exploring options for additional source removal activities in and around the Eductor pit to remove additional on-site source material while continuing to monitor EAB and attenuation processes downgradient of the former site source area.

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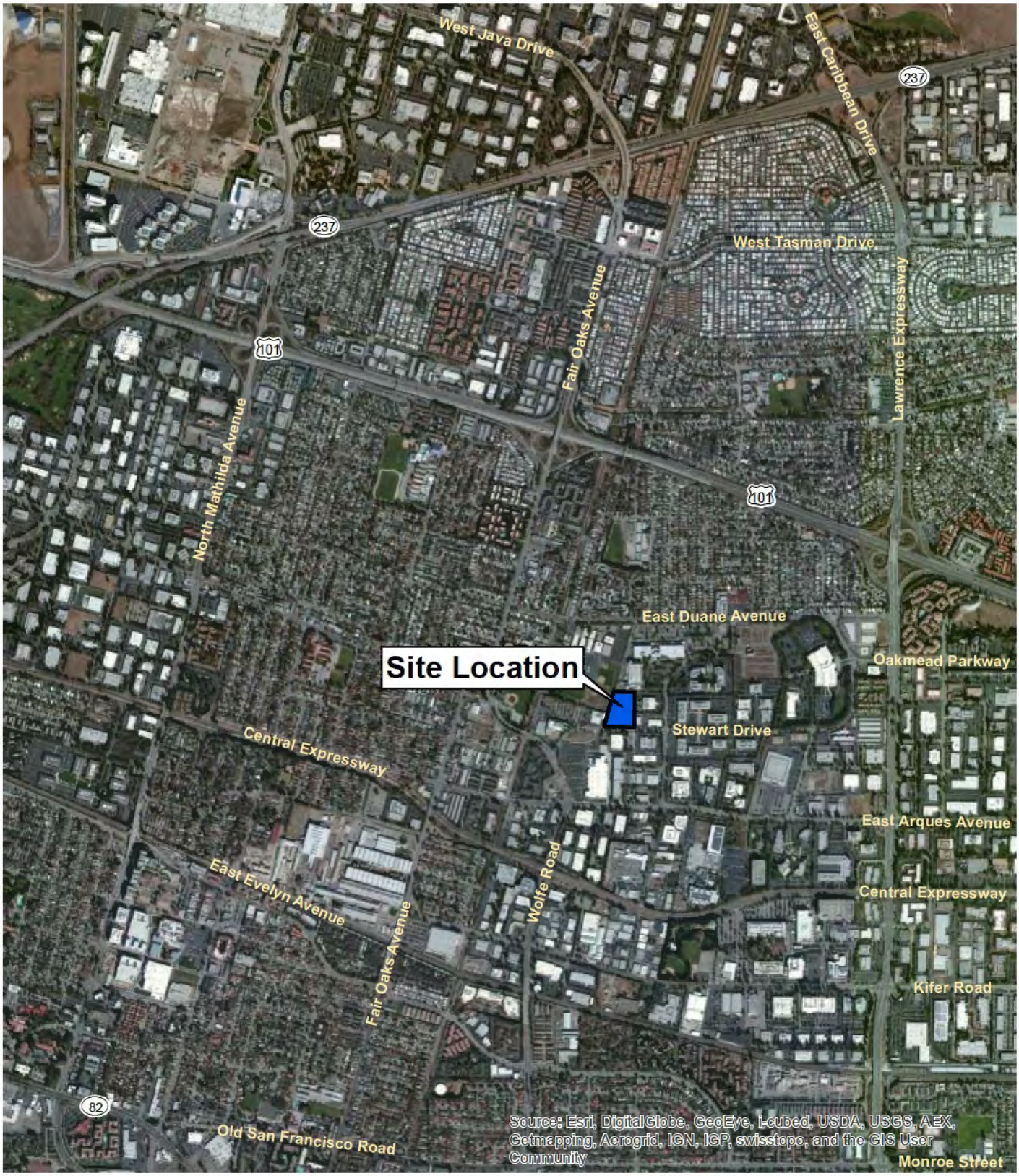
FIGURES



Former TRW Microwave Facility

Site Location

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0 1,000 2,000 Feet

1 " = 2,000 '

Date 12-13	NORTHROP GRUMMAN	Figure 1
Project No. 60238860		

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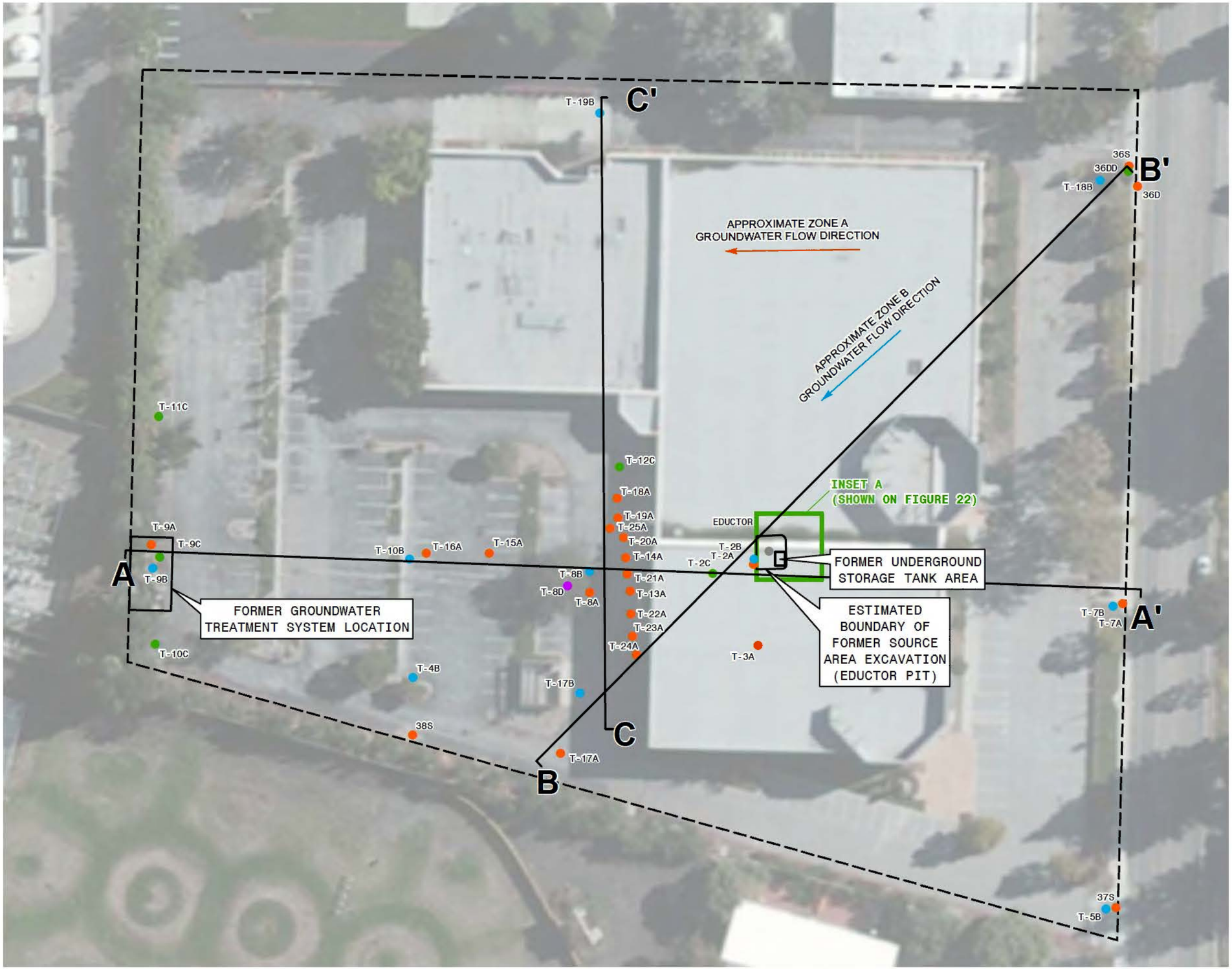
Former TRW Microwave Facility

Site Vicinity Map

Date 12-13	NORTHROP GRUMMAN	Figure 2
Project No. 60238860		



LEGEND

- A-ZONE MONITORING WELL
- B1-ZONE MONITORING WELL
- B2-ZONE MONITORING WELL
- B4-ZONE MONITORING WELL
- EDUCTOR
- PROPERTY BOUNDARY
- A A' CROSS SECTION SHOWN ON FIGURE 4
- B B' CROSS SECTION SHOWN ON FIGURE 5
- C C' CROSS SECTION SHOWN ON FIGURE 6

N

0 25 50 Feet

1 " = 50 '

Site Layout

Date 02-14	NORTHROP GRUMMAN	Figure 3
Project No. 60238860		

File: W:\work\60238860_NG\GIS\Projects\Site_Layout_B3.mxd
Date: Tuesday, February 25, 2014 5:32:08 PM

NORTH

A

SOUTH

A'

BUILDING

T-9A T-9B T-9C T-10B T-16A T-15A T-8B T-8A T-14A T-13A T-2C T-2B T-2A EDUCTOR T-1B T-7A

FEET ABOVE MEAN SEA LEVEL / FEET BELOW GROUND SURFACE

FEET BELOW GROUND SURFACE / FEET ABOVE MEAN SEA LEVEL

ZONE A

CONFINING LAYER

ZONE B1

ZONE B2

CONFINING LAYER

Scale in Feet
HORZ : VERT
1 : 4

10 5 0 20 40

LEGEND

- FINE-GRAINED SOILS
- COARSE-GRAINED SOILS
- CONFINING LAYER
- AQUIFER ZONE A
- AQUIFER ZONE B1
- AQUIFER ZONE B2

CL/CH CLAYS
ML SILTS
SM/SC SILTY/CLAYEY SANDS
SP POORLY GRADED SANDS
SW WELL-GRADED SANDS
GP POORLY GRADED GRAVELS
GW WELL GRADED GRAVELS

- GROUND SURFACE
- BORING / WELL CASING
- GROUNDWATER WELL SCREEN INTERVAL
- TERMINATION OF BORING

REVISIONS NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:
DRAWN BY: CD
CHECKED BY: RC
APPROVED BY: RM

NORTHROP GRUMMAN

GEOLOGIC CROSS-SECTION A TO A'

CONCEPTUAL SITE MODEL
FORMER TRW MICROWAVE
SUNNYVALE, CALIFORNIA

PROJECT NUMBER: 60238860
DATE: 02/28/2014
SCALE: 1"=40'

FIGURE NUMBER: 4

SHEET NUMBER: 1 of 1

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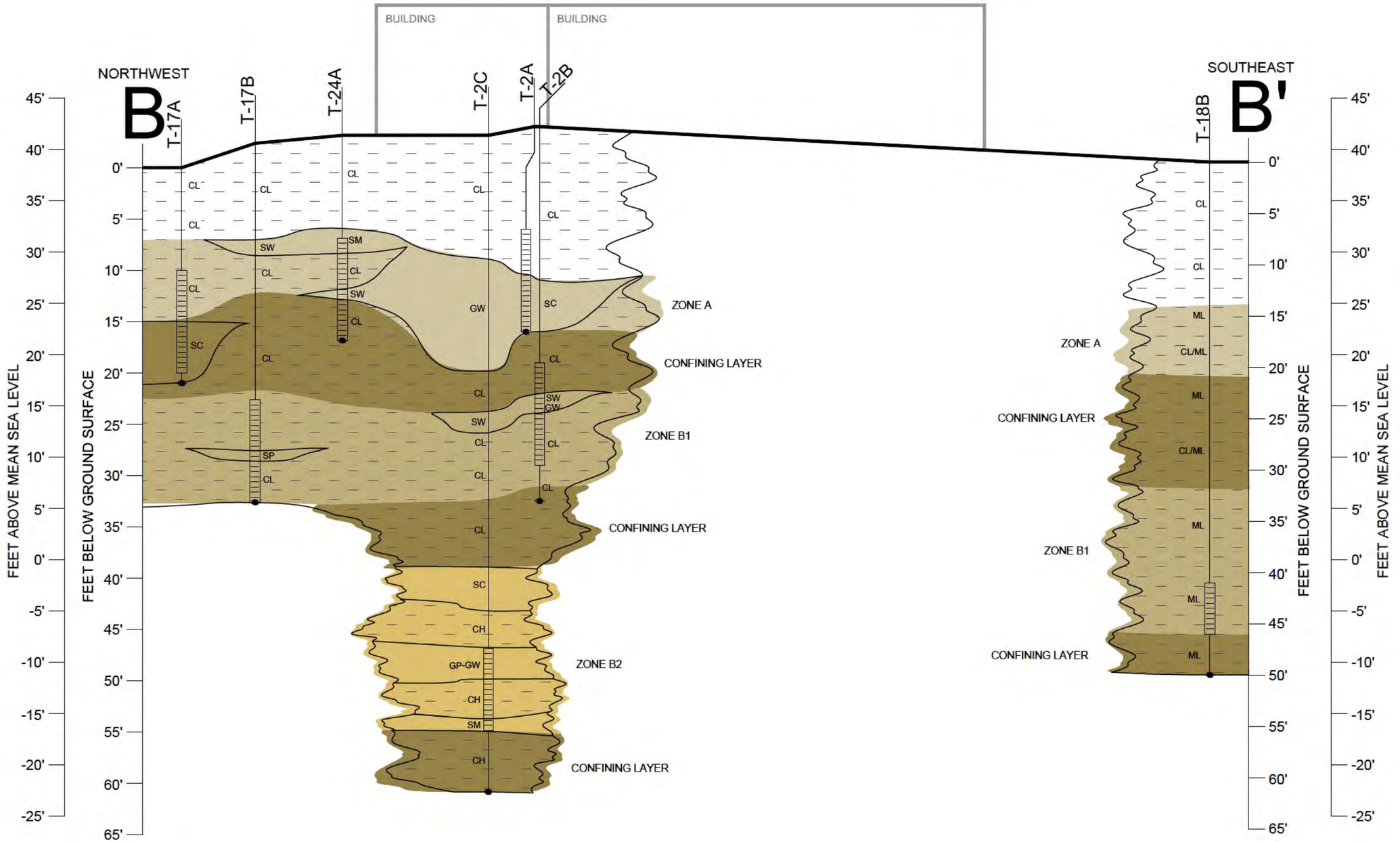

LEGEND

- FINE-GRAINED SOILS
- COARSE-GRAINED SOILS
- CONFINING LAYER
- AQUIFER ZONE A
- AQUIFER ZONE B1
- AQUIFER ZONE B2

CL/CH	CLAYS
ML	SILTS
SM/SC	SILTY/CLAYEY SANDS
SP	POORLY GRADED SANDS
SW	WELL-GRADED SANDS
GP	POORLY GRADED GRAVELS
GW	WELL GRADED GRAVELS

- GROUND SURFACE
- BORING / WELL CASING
- GROUNDWATER WELL SCREEN INTERVAL
- TERMINATION OF BORING

Scale in Feet
HORZ : VERT
1 : 4

REVISIONS NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:
DRAWN BY: CD
CHECKED BY: CD
APPROVED BY: RM

NORTHROP GRUMMAN

GEOLOGIC CROSS-SECTION B TO B'

CONCEPTUAL SITE MODEL
FORMER TRW MICROWAVE
SUNNYVALE, CALIFORNIA

PROJECT NUMBER: 60238860
DATE: 02/28/2014
SCALE: 1"=40'

FIGURE NUMBER: 5

SHEET NUMBER: 1 of 1

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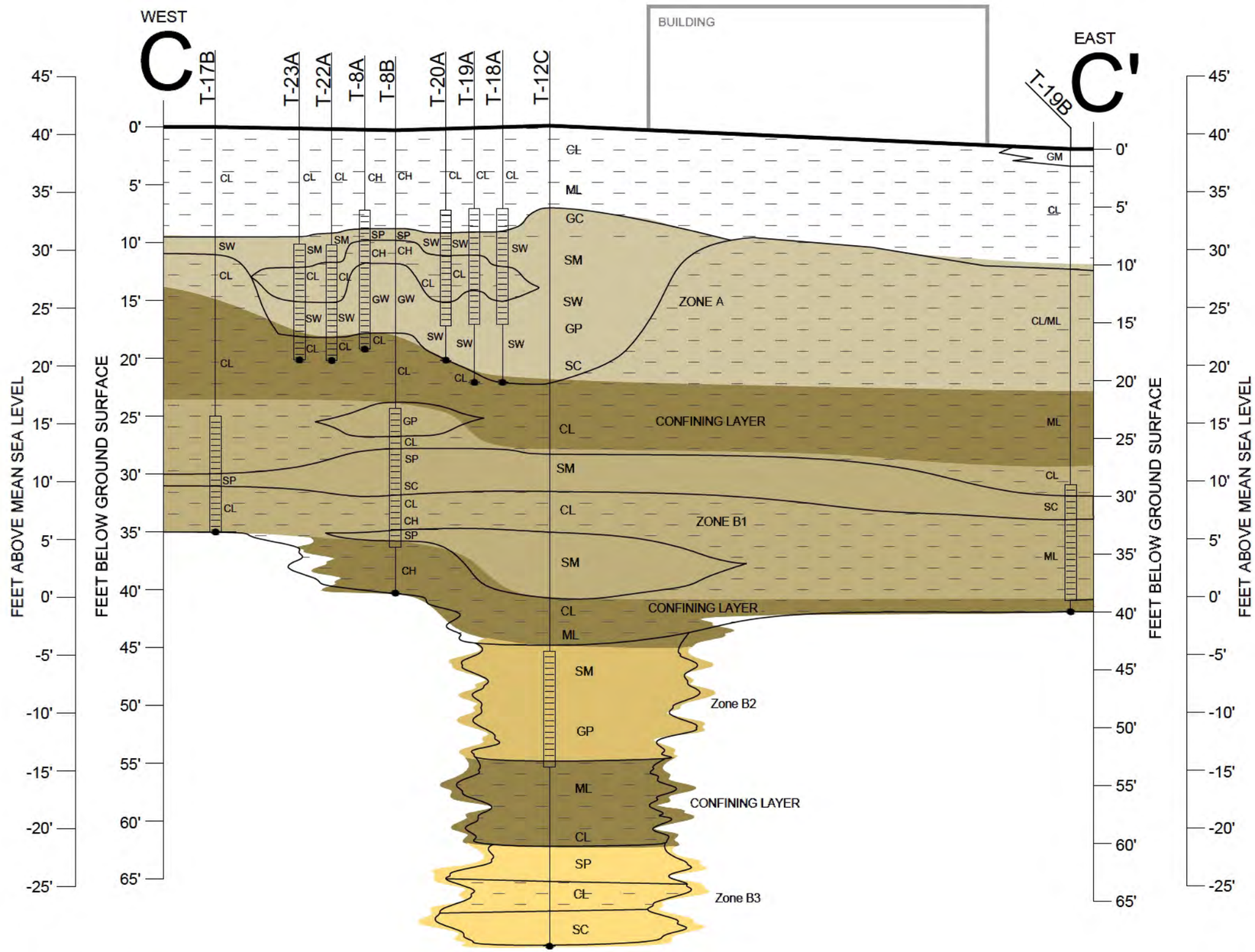


LEGEND

- FINE-GRAINED SOILS
- COARSE-GRAINED SOILS
- CONFINING LAYER
- AQUIFER ZONE A
- AQUIFER ZONE B1
- AQUIFER ZONE B2
- AQUIFER ZONE B3

CL/CH	CLAYS
ML	SILTS
SM/SC	SILTY/CLAYEY SANDS
SP	POORLY GRADED SANDS
SW	WELL-GRADED SANDS
GP	POORLY GRADED GRAVELS
GW	WELL GRADED GRAVELS

- GROUND SURFACE
- BORING / WELL CASING
- GROUNDWATER WELL SCREEN INTERVAL
- TERMINATION OF BORING

Scale in Feet
HORZ : VERT
1 : 4

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY:
DRAWN BY: CD
CHECKED BY: CD
APPROVED BY: RM

NORTHROP GRUMMAN

GEOLOGIC CROSS-SECTION C TO C'

CONCEPTUAL SITE MODEL
FORMER TRW MICROWAVE
SUNNYVALE, CALIFORNIA

PROJECT NUMBER: 60238860
DATE: 02/28/2014
SCALE: 1"=40'

FIGURE NUMBER: 6

SHEET NUMBER: 1 of 1

W:\work\60238860_NGC\ADD\60238860_NGC_TRW Microwave_Geo X-Sect_20140228.dwg

LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE A MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE A EXTRACTION WELL
- (34.82) INDICATES WATER-LEVEL ELEVATION IN ZONE A MONITORING WELL (FEET, MSL & NAVD 88) IN OCTOBER 2013
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE A IN OCTOBER 2013

SCALE
0 300 600 FEET

NORTHROP GRUMMAN Northrop Grumman Space & Mission Systems Corp.	FORMER TRW MICROWAVE FACILITY POTENTIOMETRIC SURFACE CONTOURS ZONE A OCTOBER 2013	DATE 12-06-2013 FIGURE 7

File: W:\work\60147454\CADD\2012\Projects\60134425 - 2010 - Fig 2 thru 8_B1.dwg Time: Feb 21, 2014 - 2:31pm

LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE B1 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B1 EXTRACTION WELL
- (33.02) INDICATES WATER–LEVEL ELEVATION IN ZONE B1 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2013
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B1 IN OCTOBER 2013

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
Northrop Grumman Space & Mission Systems Corp.

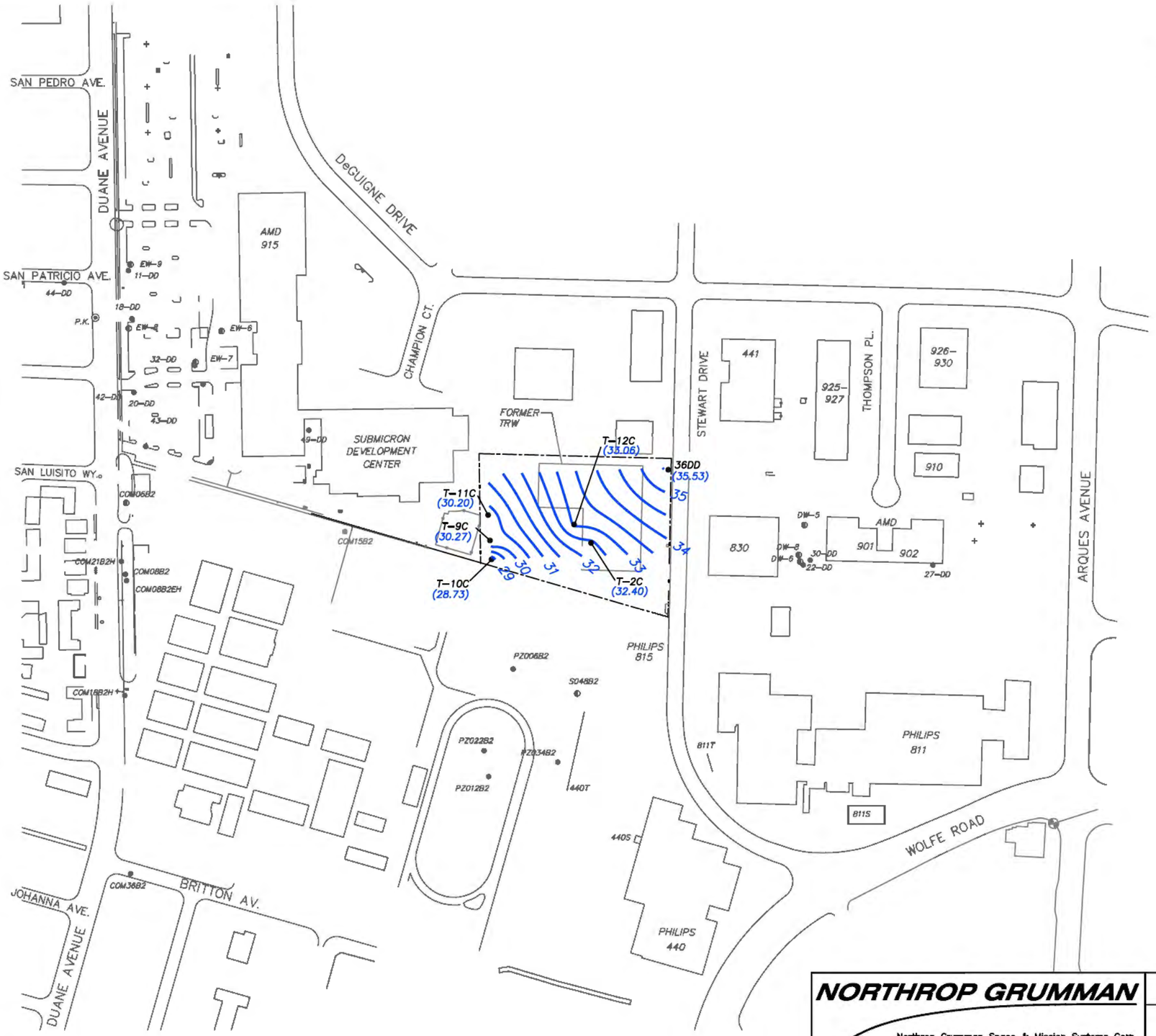
FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B1
OCTOBER 2013

DATE 12–06–2013

FIGURE 8

File: W:\work\60147454\CADD\2012\Projects\60134425 – 2010 – Fig 2 thru 8_B2.dwg Time: Feb 25, 2014 – 10:47pm



LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE B2 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B2 EXTRACTION WELL
- (35.53) INDICATES WATER-LEVEL ELEVATION IN ZONE B2 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2013
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B2 IN OCTOBER 2013

SCALE
0 300 600 FEET

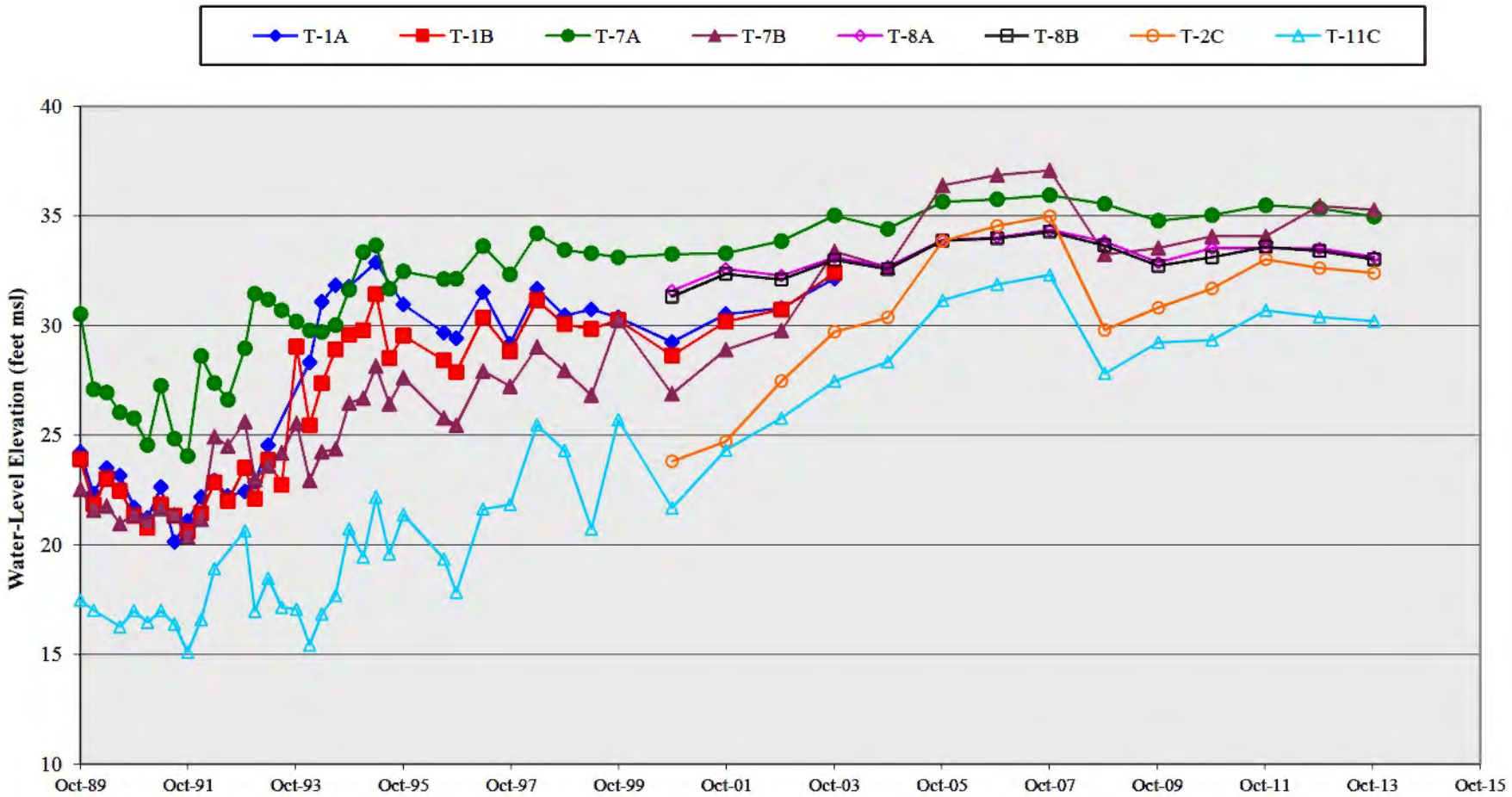
NORTHROP GRUMMAN
Northrop Grumman Space & Mission Systems Corp.

FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B2
OCTOBER 2013

DATE 12-06-2013
FIGURE 9

File: W:\work\60147454\CADD\2012\Projects\60134425 - 2010 - Fig 2 thru 8_B2.dwg Time: Feb 25, 2014 - 10:45pm



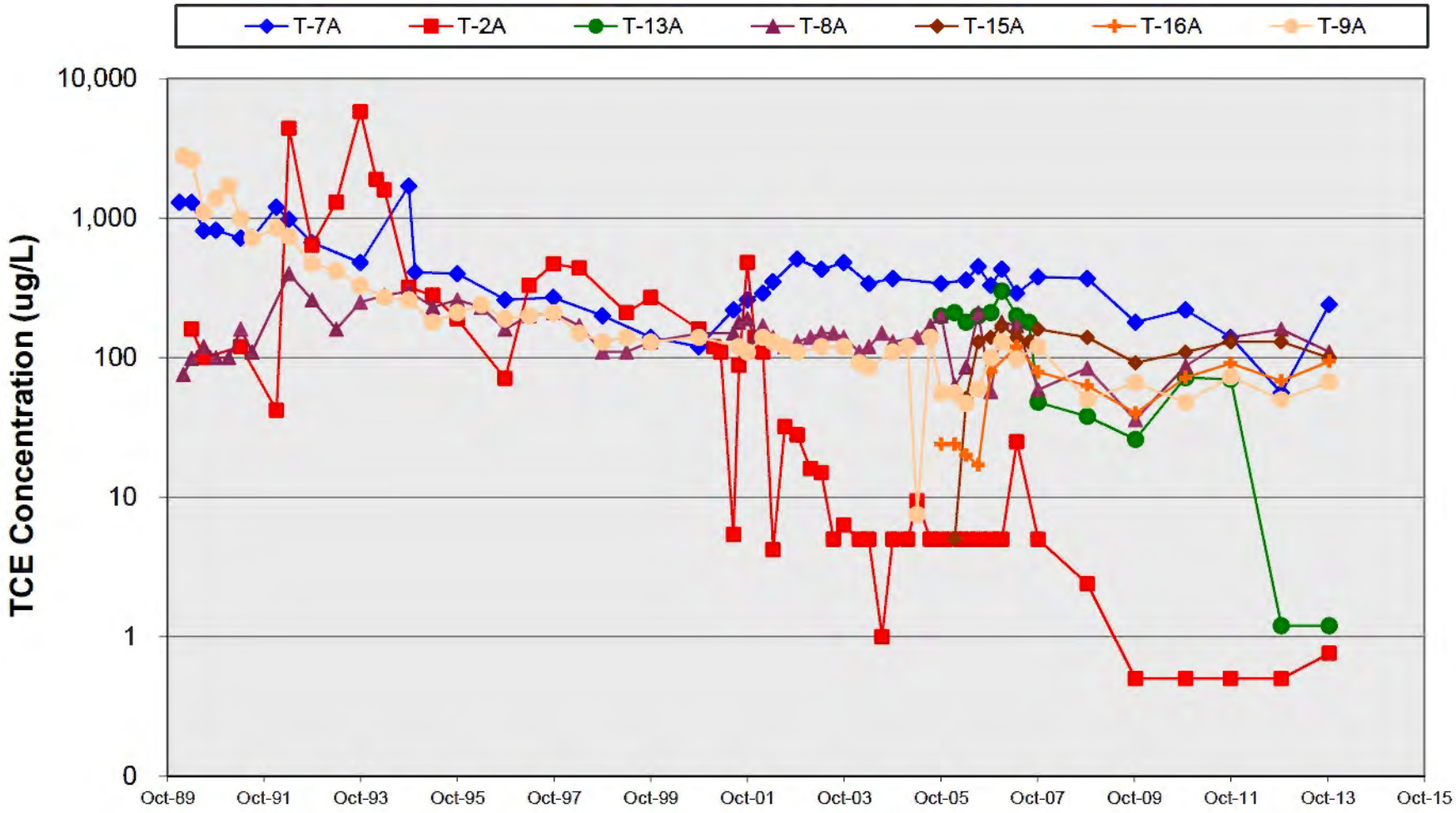
NORTHROP GRUMMAN

Former TRW Microwave Facility

Water-Level Elevations vs. Time - Wells T-1A, T-1B, T-7A, T-7B, T-8A, T-8B, T-2C, and T-11C

Note: Per Water Board approval, wells T-1A and T-1B were abandoned in February 2004. Wells T-8A, T-8B, and T-2C were included in this figure starting with year 2000 data, corresponding with suspension of groundwater extraction at these wells. Elevations presented in NAVD88.

FIGURE 10



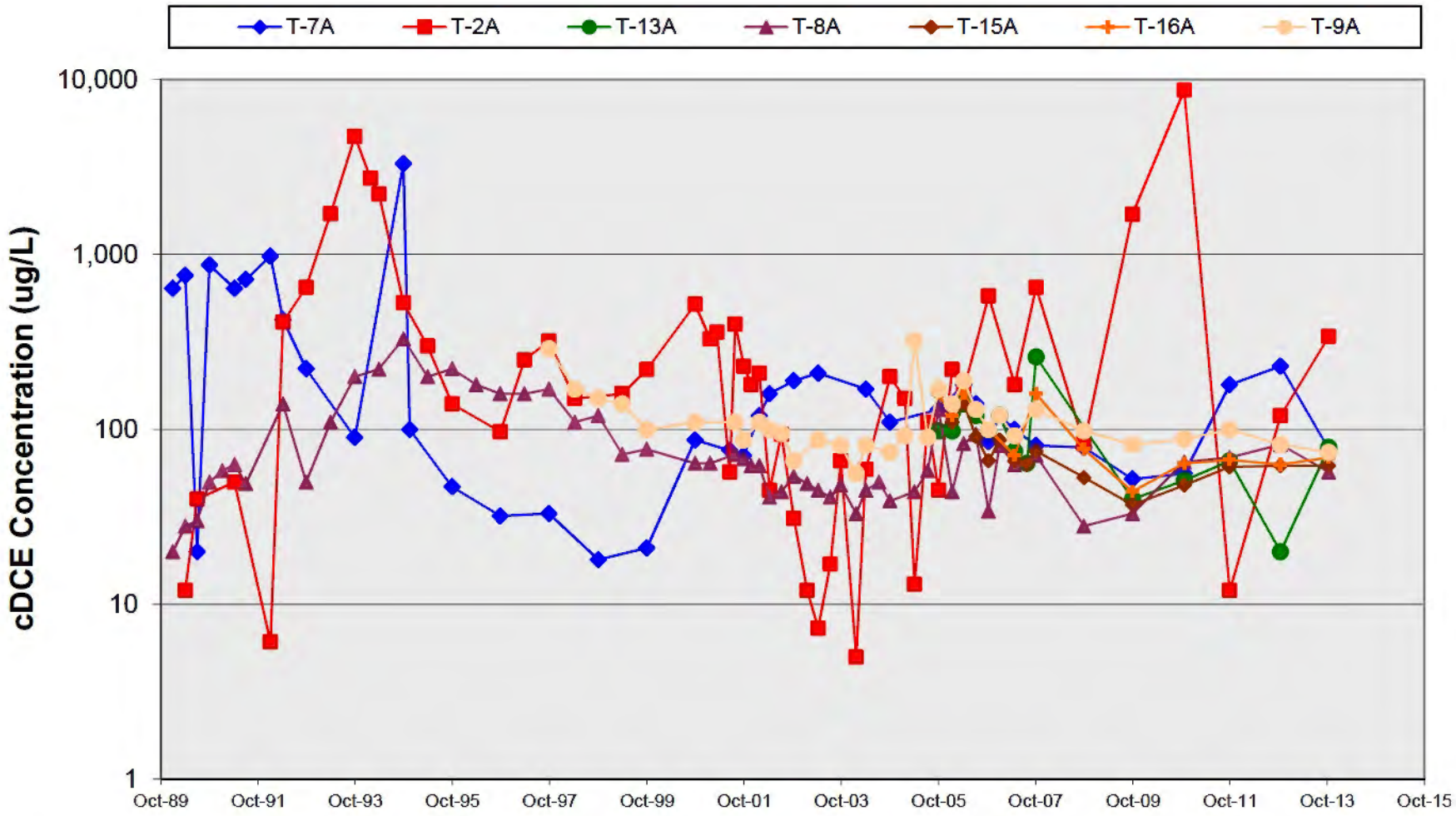
NORTHROP GRUMMAN

Former TRW Microwave Facility

TCE Concentrations vs. Time - Wells T-2A, T-7A, T-8A, T-9A, T-13A, T-15A, and T-16A

Note: For non-detects less than 5 ug/L, detection limit is presented for the data point. For non-detects greater than 5 ug/L, the data point has been omitted from the figure.

FIGURE 11



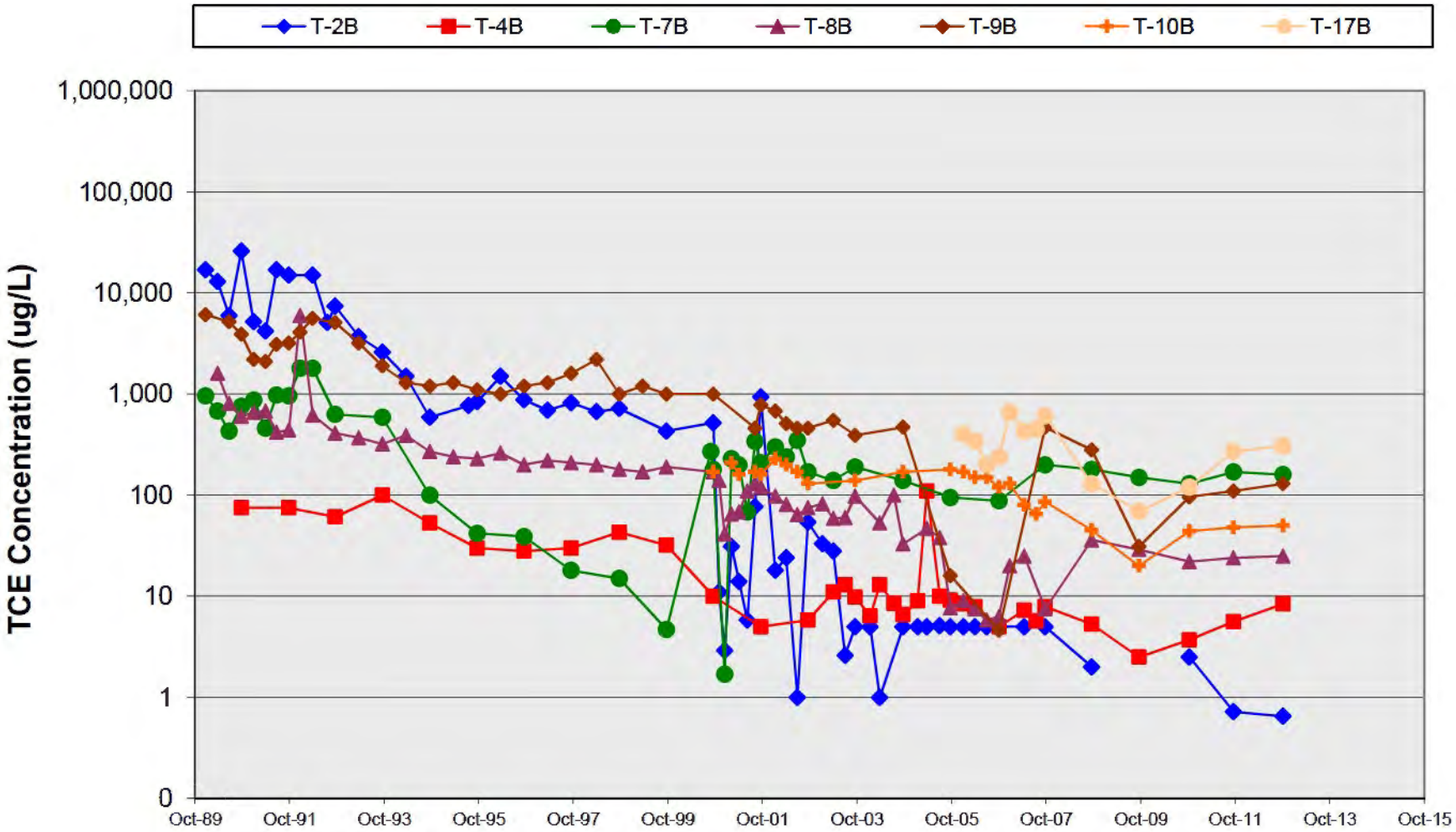
NORTHROP GRUMMAN

Former TRW Microwave Facility

cDCE Concentrations vs. Time - Wells T-2A, T-7A, T-8A, T-9A, T-13A, T-15A, and T-16A

Note: For non-detects less than 5 ug/L, detection limit is presented for the data point. For non-detects greater than 5 ug/L, the data point has been omitted from the figure. Data reported as total 1,2-DCE prior to 1996.

FIGURE 12



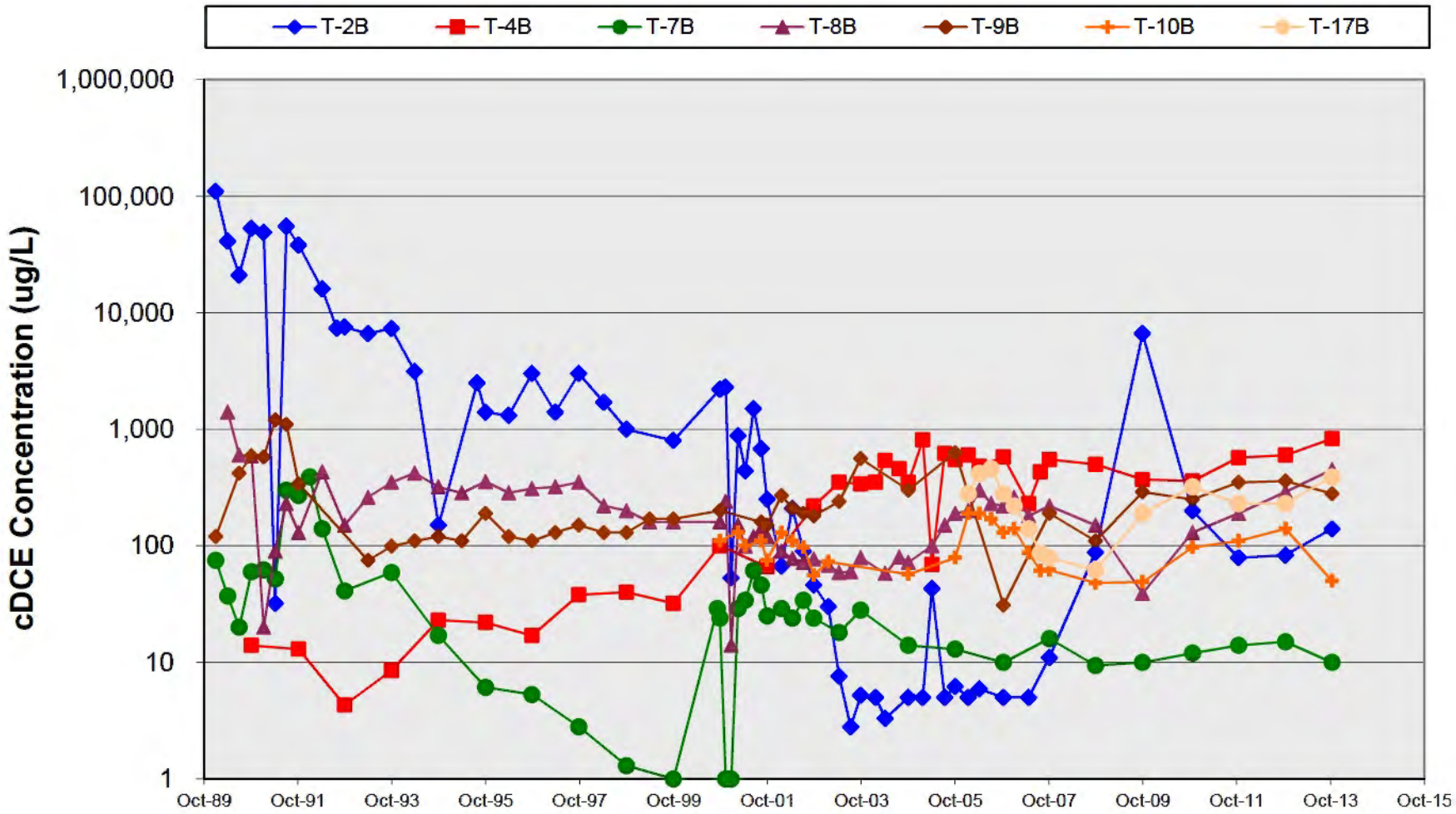
NORTHROP GRUMMAN

Former TRW Microwave Facility

TCE Concentrations vs. Time - Wells T-2B, T-4B, T-7B, T-8B, T-9B, T-10B, and T-17B

Note: For non-detects less than 5 ug/L, detection limit is presented for the data point. For non-detects greater than 5 ug/L, the data point has been omitted from the figure.

FIGURE 13



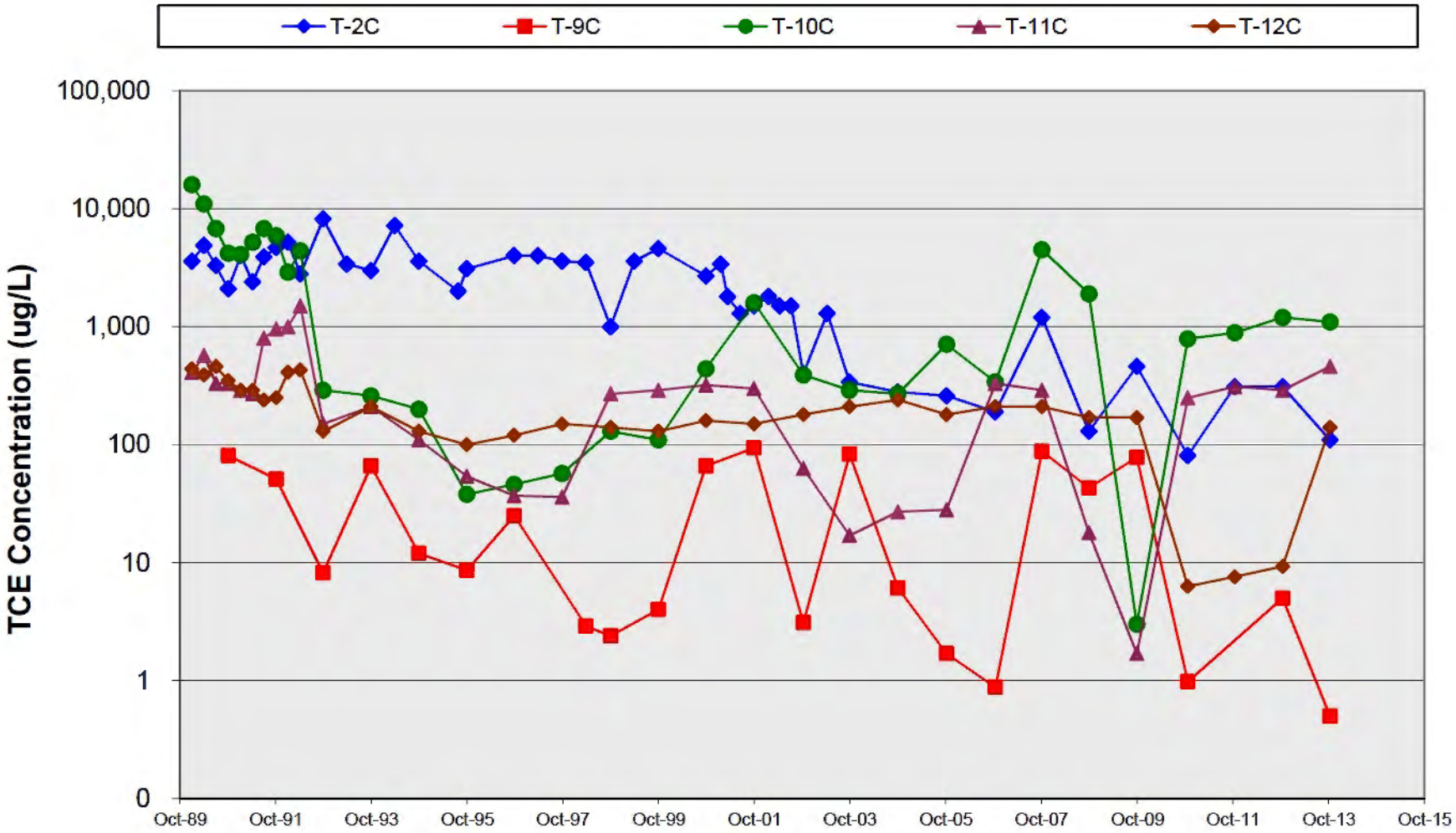
NORTHROP GRUMMAN

Former TRW Microwave Facility

cDCE Concentrations vs. Time - Wells T-2B, T-4B, T-7B, T-8B, T-9B, T-10B, and T-17B

Note: For non-detects less than 5 ug/L, detection limit is presented for the data point. For non-detects greater than 5 ug/L, the data point has been omitted from the figure. Data reported as total 1,2-DCE prior to 1996.

FIGURE 14



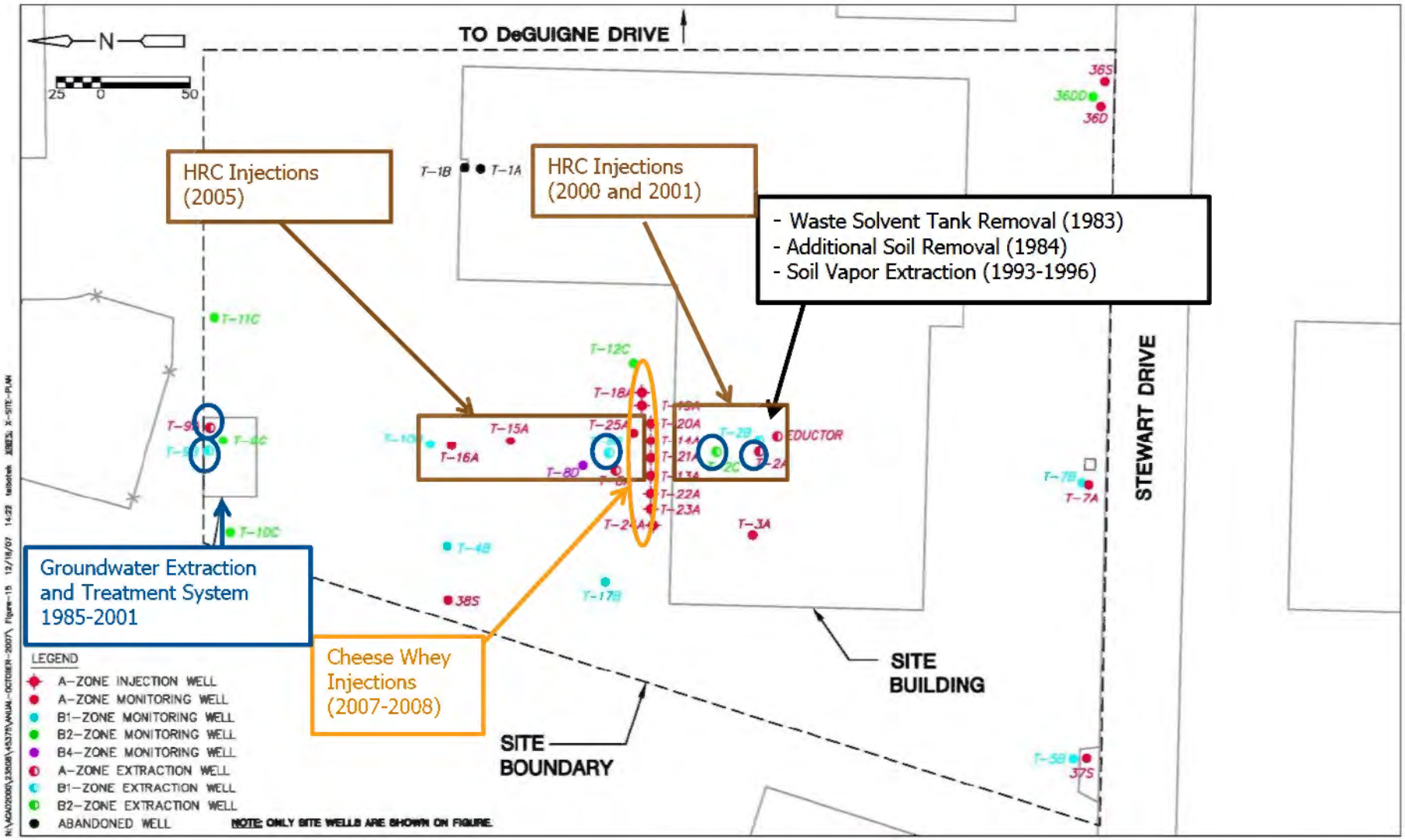
NORTHROP GRUMMAN

Former TRW Microwave Facility

TCE Concentrations vs. Time - Wells T-2C, T-9C, T-10C, T-11C, and T-12C

Note: For non-detects less than 5 ug/L, detection limit is presented for the data point. For non-detects greater than 5 ug/L, the data point has been omitted from the figure.

FIGURE 15

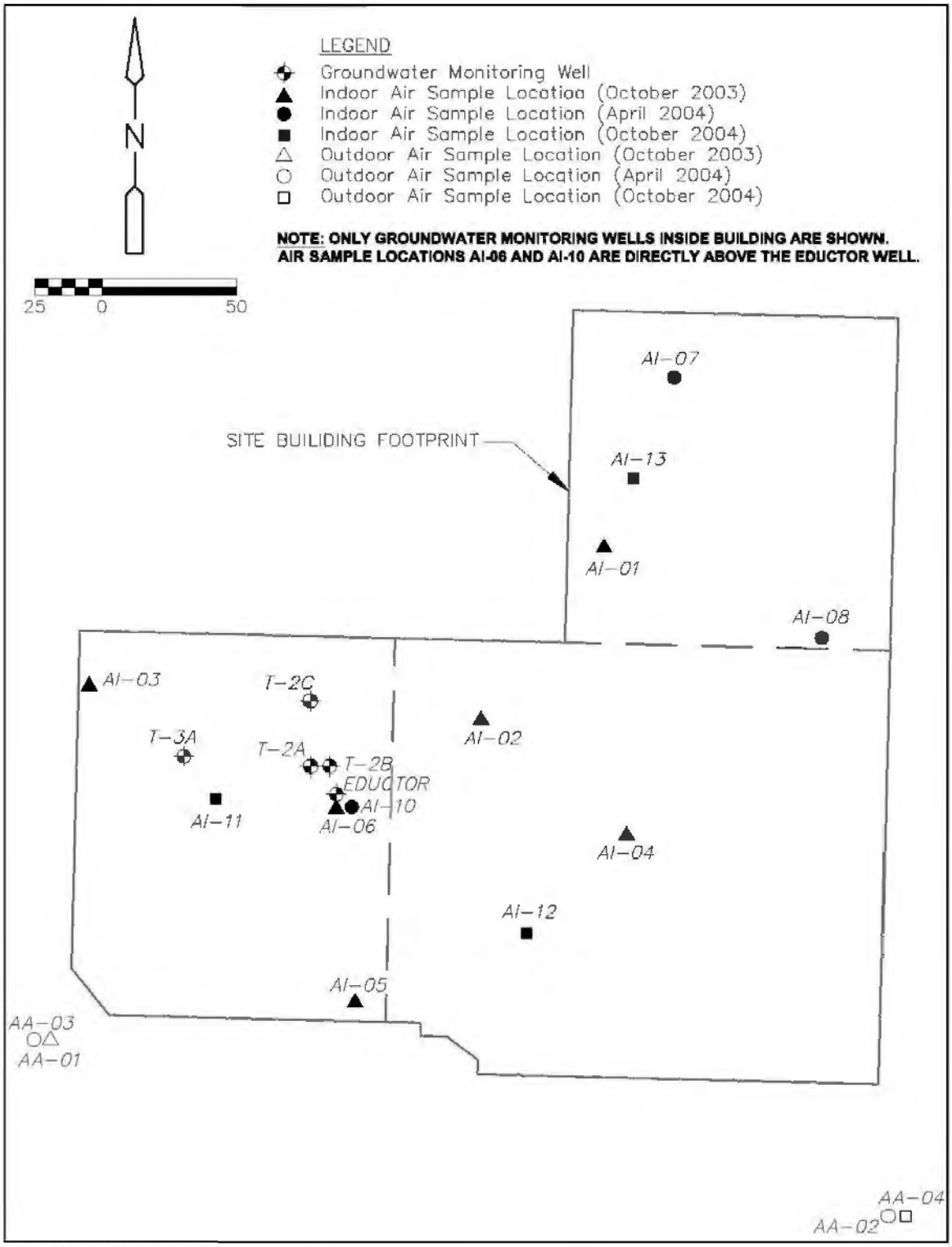


NORTHROP GRUMMAN

Former TRW Microwave Facility

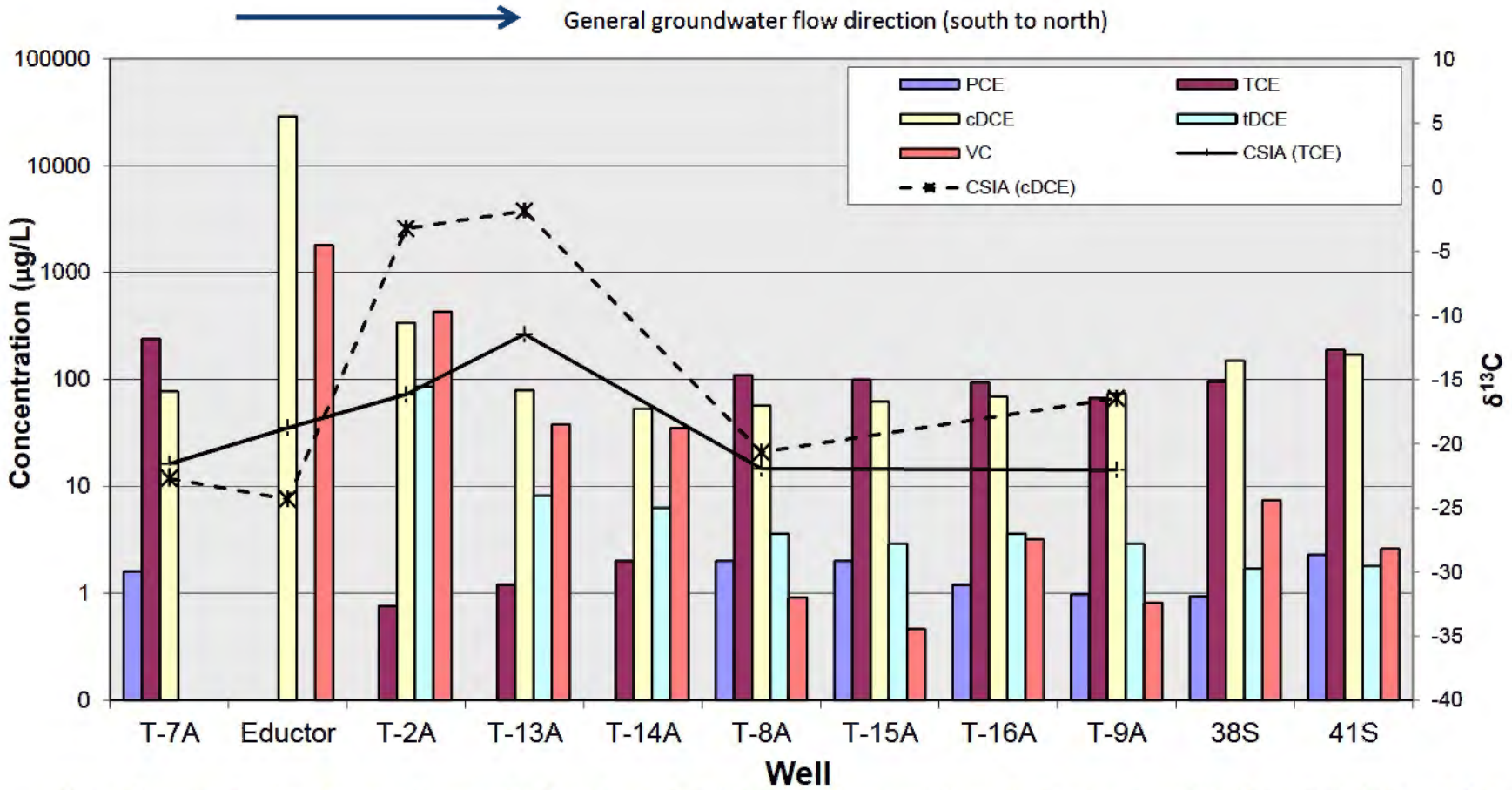
Remedial Activities Performed Prior to 2009

FIGURE 16



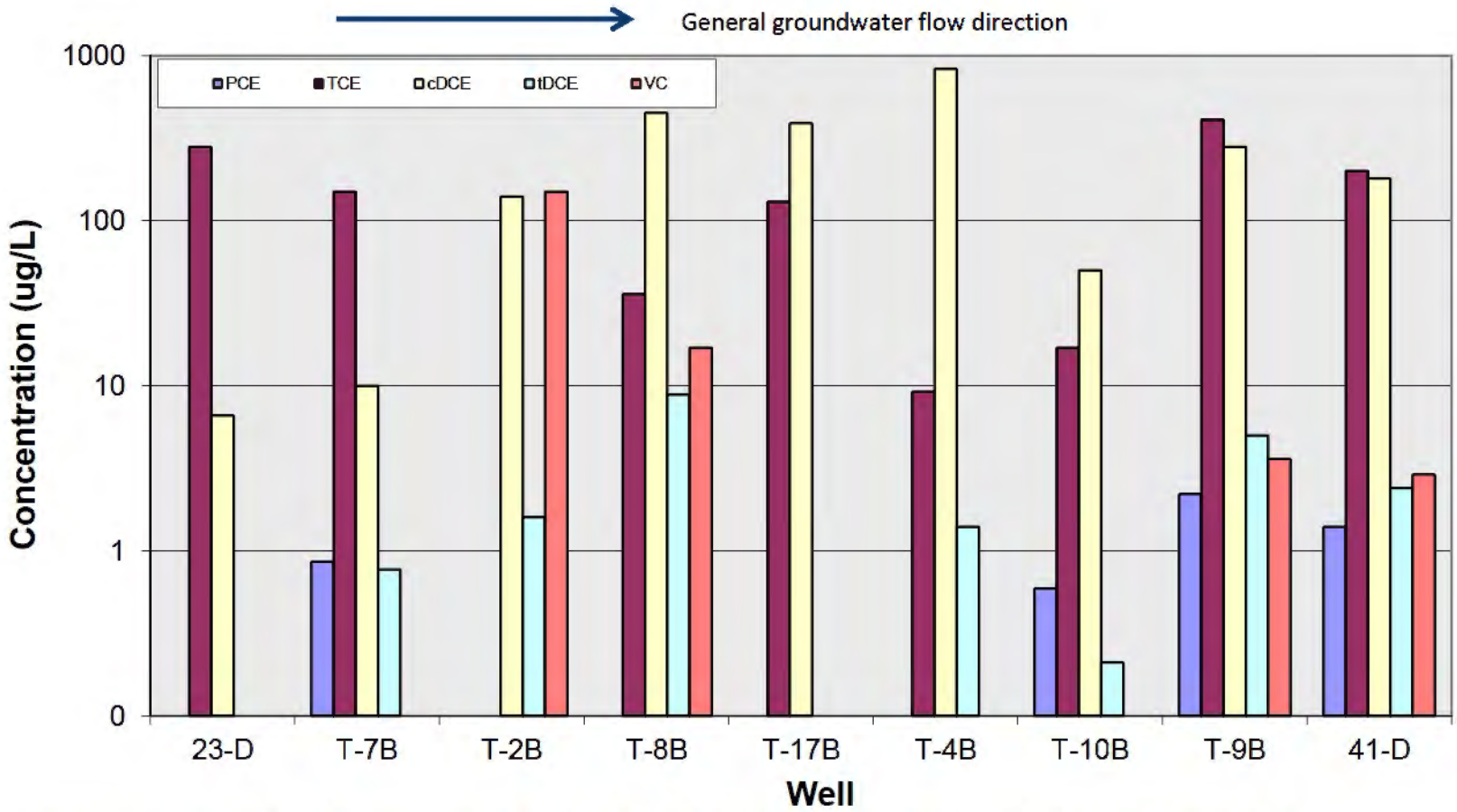
Adapted from CDM 2009.

NORTHROP GRUMMAN	Former TRW Microwave Facility **Previous Indoor Air Sampling Locations**	**FIGURE 17**



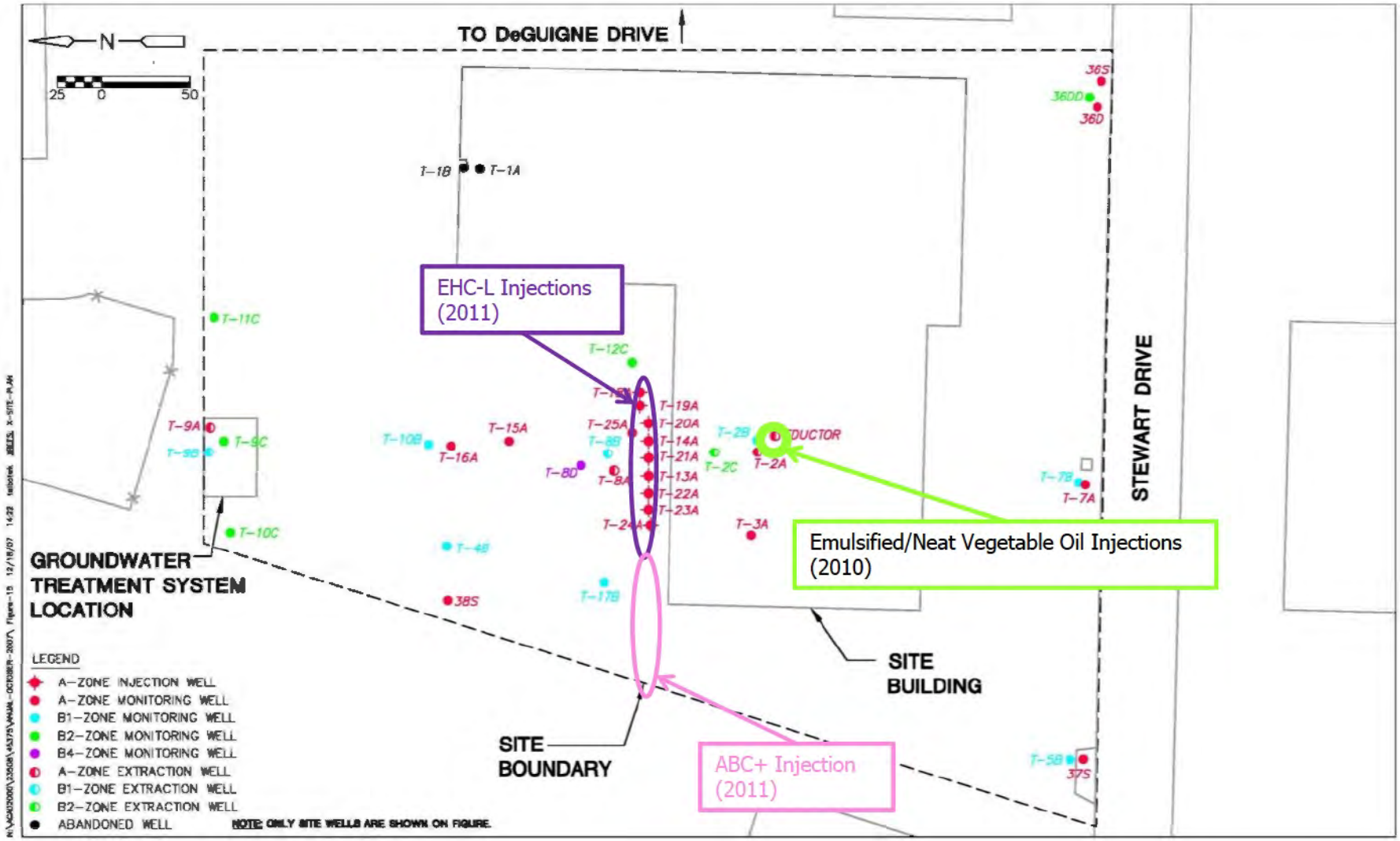
Note: Groundwater flow direction is generally along the wells listed above, from south to north, from onsite well T-7A to offsite AMD well 41S.

NORTHROP GRUMMAN	Former TRW Microwave Facility	
	Chlorinated Ethene Concentrations, Zone A - October 2013	**FIGURE 18**



Note: Groundwater flow direction is generally along the wells listed above from offsite well 23-D to offsite well 41-D.

NORTHROP GRUMMAN	Former TRW Microwave Facility	
	Chlorinated Ethene Concentrations, Zone B1 - October 2013	**FIGURE 19**



NORTHROP GRUMMAN	Former TRW Microwave Facility **Remedial Activities Performed from January 2009 through December 2013**	**FIGURE 20**

T - 19B

36S
36DD
T - 18B
36D

T–1B
T–1A

Approximate
Groundwater Flow Direction (Zone A)

T–11C

GROUNDWATER TREATMENT SYSTEM LOCATION

BOUNDARY OF FORMER SOURCE AREA EXCAVATION (EDUCTOR PIT)

T–12C
T–18A
T–19A
T–25A
T–20A
T–14A
T–21A
T–13A
T–22A
T–23A
T–24A

T–9A
T–9C
T–9B
T–16A
T–15A
T–10B
T–8B
T–8D
T–8A
T–2B
T–2A
EDUCTOR
T–2C
FORMER UNDERGROUND STORAGE TANK AREA
T–7B
T–7A
STEWART DRIVE
T–10C
T–3A
T–4B
TREE
PLANTER
T–17B
IP-1
IP-2
IP-3
IP-4
IP-4A
IP-5
IP-6
IP-7
IP-8
38S
T - 17A
SITE BUILDING
CURB
DENSE VEGETATION
FIRE HYDRANT
SITE BOUNDARY
T–5B
37S

LEGEND
- A-ZONE INJECTION WELL
- A-ZONE MONITORING WELL
- B1-ZONE MONITORING WELL
- B2 ZONE MONITORING WELL
- B4-ZONE MONITORING WELL
- EDUCTOR
- ABOANDONED WELL
- A-ZONE WELL INSTALLED IN NOVEMBER 2012
- B1-ZONE WELL INSTALLED IN NOVEMBER 2012

EHC-L INJECTION WELL LOCATIONS

ABC+ DIRECT PUSH INJECTION LOCATIONS

NOTE: ONLY WELLS WITHIN SITE ARE SHOWN ON FIGURE.
A–ZONE MONITORING WELL T–6A LOCATED ON ADJACENT PROPERTY, APPROXIMATELY 375 FEET EAST OF T–11C, ALONG PROPERTY BOUNDARY.

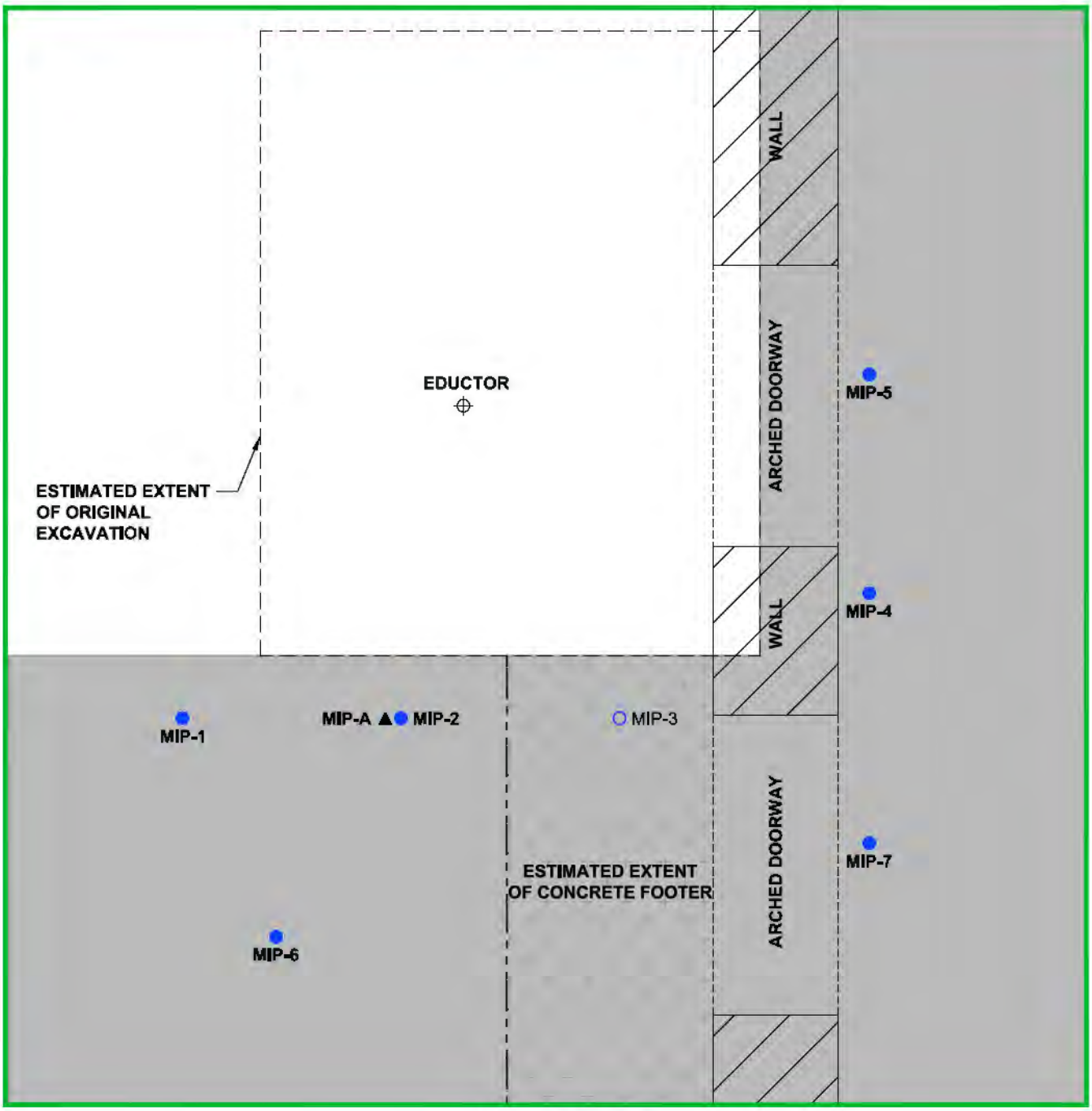
6014-7454.D4 Northrop Grumman

N

1" = 50'

25 0 50

Figure 21
Injection Locations for November 2011
Enhanced Anaerobic Biodegradation Activities and New Well Locations



(INSET A - SEE FIGURE 3)

NORTH

0 2.5' 5'

1" = 5'

Legend

- MIP locations
- Attempted MIP Location (Concrete more than 30 inches thick)
- ▲ Continuous Core and Soil Sampling Location
- MIP Membrane Interface Probe
- Building Extent at the Time of Excavation

Former TRW Microwave Facility

MIP and Continuous Core Locations

Date: 02-14	NORTHROP GRUMMAN	Figure 22
Project No. 60238860		

LEGEND

- PROPOSED INDOOR AIR SAMPLING LOCATION
- PROPOSED SUB-SLAB SAMPLING LOCATION
- OUTDOOR AIR SAMPLING LOCATION
- PROPERTY BOUNDARY
- BUILDING SECTION BOUNDARY
- VAPOR BARRIER

N

0 25 50 Feet

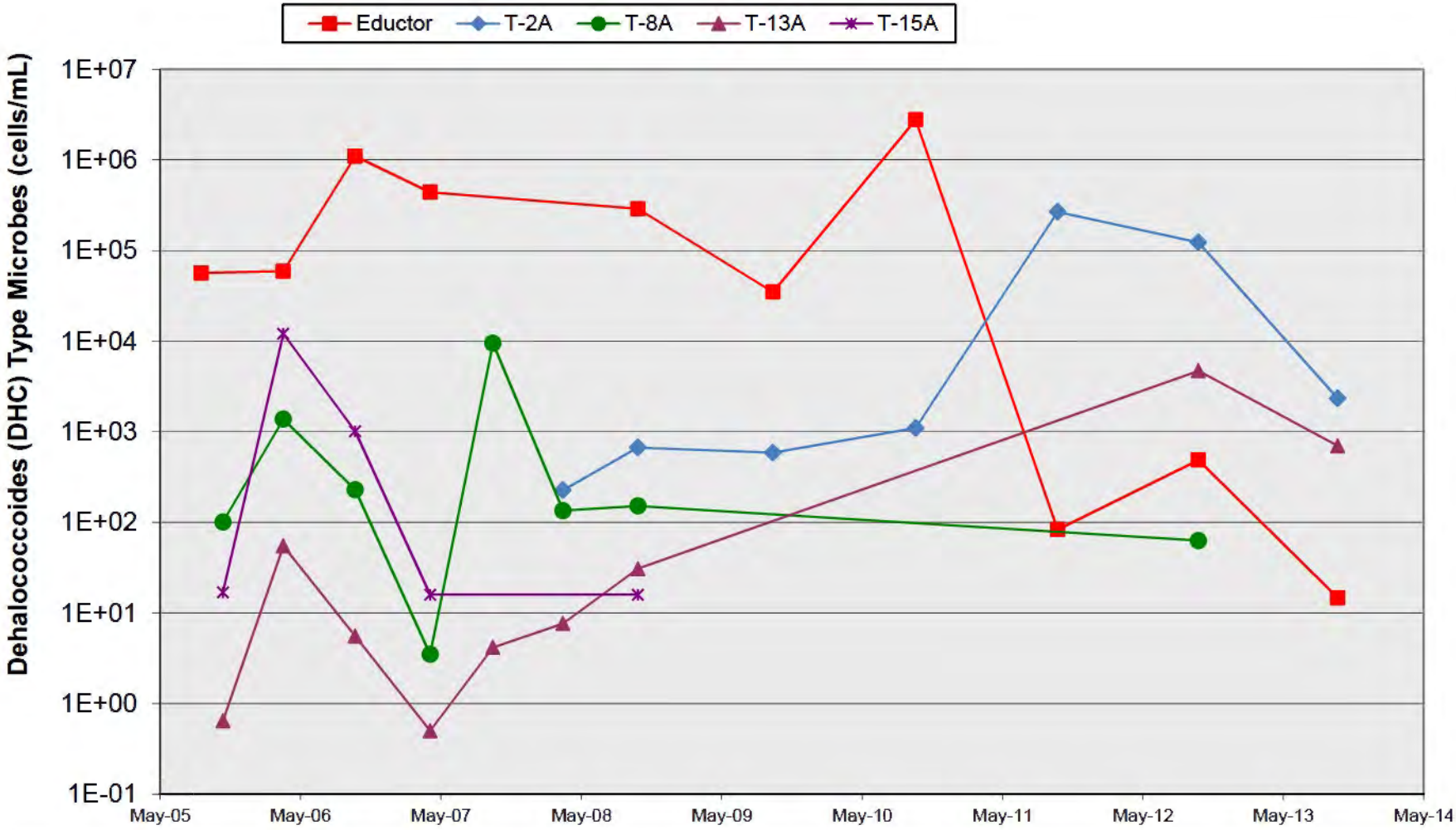
1 " = 50 '

Former TRW Microwave Facility

Sub-Slab Vapor and Air Sampling Locations

Date 2-14	NORTHROP GRUMMAN	Figure 23
Project No. 60238860		

File: W:\work\60238860_NG\GIS\Projects\Sub_Slab_Vapor_and_Air_Sampling_Locations_Fig23_B3.mxd
Date: Tuesday, February 25, 2014 11:04:44 PM



NORTHROP GRUMMAN	Former TRW Microwave Facility **Dehalococcoides (Dhc) Type Microbe Concentrations vs. Time - Wells Eductor, T-8A, T-13A and T-15A**	**FIGURE 24**

APPENDICES

APPENDIX A

WELL COMPLETION AND SAMPLING INFORMATION

Appendix A
Well Completion and Sampling Information
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Screen Interval (feet bgs)	Total Depth (feet bgs)	Top of Casing Elevation (feet, MSL)	Sampling Schedule (annual quarters)	EPA Test Method
EDUCTOR	A	8-16	16.5	42.24	4TH	8260B
T-1A	A	10-20	20	41.16	Well Abandoned in 2004	
T-1B	B1	28-38	38	41.72	Well Abandoned in 2004	
T-2A	A	10-20	20	42.16	4TH	8260B
T-2B	B1	23-33	33	42.23	4TH	8260B
T-2C	B2	51-59	59	41.38	4TH	8260B
T-3A	A	10-20	20	41.74	4TH	8260B
T-4B	B1	31.5-41.5	42	40.93	4TH	8260B
T-5B	B1	34.5-44.5	45	42.45	4TH	8260B
T-6A	A	10-20	20	39.92	4TH	8260B
T-7A	A	8-20	20	42.09	4TH	8260B
T-7B	B1	34-41	41	42.01	4TH	8260B
T-8A	A	8-19	19	40.38	4TH	8260B
T-8B	B1	24-36	36	40.33	4TH	8260B
T-8D	B4	90-102	102	40.35	Sampling Suspended in 2002	
T-9A	A	7-19	19	39.22	4TH	8260B
T-9B	B1	28-37	37	38.89	4TH	8260B
T-9C	B2	55-65	65	38.81	4TH	8260B
T-10B	B1	23-32	32	40.09	4TH	8260B
T-10C	B2	49-59	60	39.76	4TH	8260B
T-11C	B2	46-56	56	38.65	4TH	8260B
T-12C	B2	45.5-55.5	56	40.74	4TH	8260B
T-13A	A	10-20	20	40.76	4TH	8260B
T-14A	A	10-20	20	40.62	4TH	8260B
T-15A	A	10-20	20	40.11	4TH	8260B
T-16A	A	10-20	20	40.02	4TH	8260B
T-17A	A	10-20	20	38.23	4TH	8260B
T-17B	B1	25-35	35	40.61	4TH	8260B
T-18A	A	12-22	22	TBD	4TH	8260B
T-18B	B1	41-46	46	38.78	4TH	8260B
T-19A	A	10-20	22	TBD	4TH	8260B
T-19B	B1	29-39	39	38.72	4TH	8260B
T-20A	A	7-17	20	TBD	4TH	8260B
T-21A	A	10-20	20	TBD	4TH	8260B
T-22A	A	10-20	20	TBD	4TH	8260B
T-23A	A	10-20	20	TBD	4TH	8260B
T-24A	A	10-20	20	TBD	4TH	8260B
T-25A	A	10-20	20	TBD	4TH	8260B
36S	A	10-16	16	41.46	4TH	+
36D	A	15-20	20	41.26	4TH	+
36DD	B2	51.5-61.5	61.5	41.58	4TH	+
37S	A	9-15	15	42.06	4TH	+
38S	A	9-15	15	41.05	4TH	8260B

Notes:
+ = Sample collected and analyzed by AMD.
TBD = To be determined; well casing elevations have not been surveyed.
Top of casing elevations presented in NAVD88.
Eductor screen interval and total depth revised based on September 2010 well videolog

APPENDIX B

HISTORIC WATER LEVEL ELEVATION MEASUREMENTS

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-1A	A				
Per Water Board approval, well T-1A was abandoned in February 2004.					
			Oct-03	9.01	29.45
			Oct-02	10.36	28.10
			Oct-01	10.64	27.82
			Oct-00	11.91	26.55
			Oct-99	10.79	27.67
			Apr-99	10.42	28.04
			Oct-98	10.70	27.76
			Apr-98	9.48	28.98
		38.46	Oct-97	11.99	26.47
			Apr-97	10.83	28.83
			Oct-96	12.94	26.72
			Jul-96	12.67	26.99
			Oct-95	11.40	28.26
			Jul-95	NM	NA
			Apr-95	9.48	30.18
			Jan-95	NM	NA
			Oct-94	10.59	29.07
			Jul-94	10.51	29.15
			Apr-94	11.27	28.39
			Jan-94	14.03	25.63
			Oct-93	NM	NA
			Jul-93	NM	NA
			Apr-93	17.82	21.84
			Jan-93	19.50	20.16
			Oct-92	19.93	19.73
			Jul-92	20.13	19.53
			Apr-92	19.41	20.25
			Jan-92	20.17	19.49
			Oct-91	21.27	18.39
			Jul-91	22.22	17.44
			Apr-91	19.72	19.94
			Jan-91	21.15	18.51
			Oct-90	20.66	19.00
			Jul-90	19.20	20.46
			Apr-90	18.86	20.80
			Jan-90	20.03	19.63
			Oct-89	18.13	21.53
			Sep-89	17.87	21.79
			Apr-89	18.63	21.03
		39.66	Jan-89	15.07	24.59
			Oct-88	15.17	22.31
			Jul-88	14.69	22.79
			Apr-88	12.62	24.86
			Feb-88	11.70	25.78
			Nov-87	11.64	25.84
			Oct-87	9.75	27.73
			Jul-86	8.93	28.55
			May-86	8.15	29.33
			Apr-86	8.50	28.98
			Mar-86	6.35	31.13
		37.48	Jan-86	7.50	29.98

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-2A	A		Oct-13	8.53	33.63
			Oct-12	8.03	34.13
			Oct-11	8.01	34.15
			Oct-10	8.45	33.71
			Oct-09	8.78	33.38
			Oct-08	7.83	34.33
		42.16	Oct-07	7.39	34.77
			Oct-06	7.69	31.77
			Oct-05	7.82	31.64
			Oct-04	9.02	30.44
			Oct-03	8.56	30.90
		39.46	Oct-02	9.42	30.04
			Oct-01	11.46	29.53
			Oct-00	13.22	27.77
			Oct-99	16.87	24.12
			Apr-99	14.51	26.48
			Oct-98	Dry	NA
			Apr-98	12.08	28.91
		40.99	Oct-97	16.70	24.29
			Apr-97	17.32	22.36
			Oct-96	12.56	27.12
			Jul-96	17.45	22.23
			Oct-95	18.60	21.08
			Jul-95	19.25	20.43
			Apr-95	17.91	21.77
			Jan-95	18.65	21.03
			Oct-94	Dry	NA
			Jul-94	18.97	20.71
			Apr-94	Dry	NA
			Jan-94	18.47	21.21
			Oct-93	Dry	NA
			Jul-93	17.54	22.14
			Apr-93	17.34	22.34
			Jan-93	Dry	NA
			Oct-92	16.61	23.07
			Jul-92	15.26	24.42
			Apr-92	16.91	22.77
			Jan-92	16.37	23.31
			Oct-91	17.16	22.52
			Jul-91	16.66	23.02
			Apr-91	NM	NA
			Jan-91	10.18	29.50
			Oct-90	16.64	23.04
			Jul-90	16.06	23.62
			Apr-90	17.40	22.28
			Jan-90	12.88	26.80
			Oct-89	15.77	23.91
			Sep-89	16.31	23.37
			Apr-89	12.55	27.13
		39.68	Jan-89	15.50	24.18
			Oct-88	15.88	23.77
			Jul-88	15.59	24.06
			Apr-88	15.32	24.33
			Feb-88	11.74	27.91
			Nov-87	12.15	27.50
			Oct-87	10.67	28.98
			Jul-86	12.73	26.92
		39.65	May-86	23.00	16.65

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-3A	A		Oct-13	7.99	33.75
			Oct-12	7.59	41.74
			Oct-11	7.48	34.26
			Oct-10	7.92	33.82
			Oct-09	8.32	33.42
			Oct-08	7.28	34.46
		41.74	Oct-07	6.78	34.96
			Oct-06	7.11	31.93
			Oct-05	7.25	31.79
			Oct-04	8.56	30.48
			Oct-03	8.07	30.97
			Oct-02	8.90	30.14
			Oct-01	9.23	29.81
			Oct-00	9.97	29.07
			Oct-99	9.69	29.35
			Apr-99	9.46	29.58
			Oct-98	6.52	32.52
			Apr-98	8.42	30.62
		39.04	Oct-97	10.82	28.22
			Apr-97	10.03	29.44
			Oct-96	11.69	27.78
			Jul-96	11.37	28.10
			Oct-95	11.73	27.74
			Jul-95	11.42	28.05
			Apr-95	9.70	29.77
			Jan-95	10.35	29.12
			Oct-94	10.72	28.75
			Jul-94	13.34	26.13
			Apr-94	13.64	25.83
			Jan-94	14.04	25.43
			Oct-93	13.73	25.74
			Jul-93	13.12	26.35
			Apr-93	10.95	28.52
			Jan-93	11.34	28.13
			Oct-92	11.00	28.47
			Jul-92	14.90	24.57
			Apr-92	11.28	28.19
			Jan-92	12.25	27.22
			Oct-91	11.06	28.41
			Jul-91	12.50	26.97
			Apr-91	11.80	27.67
			Jan-91	10.65	28.82
			Oct-90	12.57	26.90
			Jul-90	10.22	29.25
			Apr-90	10.17	29.30
			Jan-90	9.73	29.74
			Oct-89	10.76	28.71
			Sep-89	10.04	29.43
			Apr-89	9.12	30.35
		39.47	Jan-89	NM	NA
			Oct-88	9.75	29.91
			Jul-88	10.01	29.65
			Apr-88	9.30	30.36
			Feb-88	9.62	30.04
			Nov-87	9.78	29.88
			Oct-87	8.68	30.98
			Jul-86	9.89	29.77
			May-86	9.75	29.91
			Apr-86	9.50	30.16
			Mar-86	7.16	32.50
		39.66	Jan-86	7.90	31.76

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-6A	A		Oct-13	NM	--
			Oct-12	NM	--
			Oct-11	NM	--
			Oct-10	NM	--
			Oct-09	8.42	31.50
			Oct-08	NM	--
		39.92	Oct-07	8.00	31.92
			Oct-06	8.21	29.01
			Oct-05	8.45	28.77
			Oct-03	7.29	29.93
			Oct-02	8.31	28.91
			Oct-01	8.40	28.82
			Oct-00	10.55	26.67
			Oct-99	10.37	26.85
			Apr-99	9.96	27.26
			Oct-98	10.17	27.05
			Apr-98	9.02	28.20
		37.22	Oct-97	11.23	25.99
			Apr-97	10.05	27.76
			Oct-96	11.69	26.12
			Jul-96	11.77	26.04
			Oct-95	11.40	26.41
			Jul-95	11.17	26.64
			Apr-95	8.89	28.92
			Jan-95	10.66	27.15
			Oct-94	10.80	27.01
			Jul-94	11.54	26.27
			Apr-94	11.90	25.91
			Jan-94	12.48	25.33
			Oct-93	11.28	26.53
			Jul-93	12.48	25.33
			Apr-93	11.63	26.18
			Jan-93	12.98	24.83
			Oct-92	13.08	24.73
			Jul-92	14.20	23.61
			Apr-92	14.47	23.34
			Jan-92	16.33	21.48
			Oct-91	15.73	22.08
			Jul-91	14.79	23.02
			Apr-91	15.33	22.48
			Jan-91	16.03	21.78
			Oct-90	16.12	21.69
			Jul-90	NM	NA
			Apr-90	15.29	22.52
			Jan-90	15.44	22.37
			Oct-89	14.92	22.89
			Sep-89	14.76	23.05
			Apr-89	14.34	23.47
		37.81	Jan-89	13.42	24.39
			Oct-88	13.35	24.64
			Jul-88	12.95	25.04
			Apr-88	12.61	25.38
			Feb-88	12.15	25.84
			Nov-87	12.30	25.69
			Oct-87	11.63	26.36
			Jul-86	10.14	27.85
			May-86	9.85	28.14
		37.99	Jan-86	9.75	30.17

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-7A	A		Oct-13	7.11	34.98
			Oct-12	6.75	35.34
			Oct-11	6.60	35.49
			Oct-10	7.05	35.04
			Oct-09	7.31	34.78
			Oct-08	6.54	35.55
		42.09	Oct-07	6.14	35.95
			Oct-06	6.33	33.06
			Oct-05	6.44	32.95
			Oct-04	7.68	31.71
			Oct-03	7.07	32.32
		39.39	Oct-02	8.23	31.16
			Oct-01	8.37	30.60
			Oct-00	8.41	30.56
			Oct-99	8.55	30.42
			Apr-99	8.37	30.60
			Oct-98	8.22	30.75
			Apr-98	7.46	31.51
		38.97	Oct-97	9.34	29.63
			Apr-97	8.60	30.93
			Oct-96	10.10	29.43
			Jul-96	10.11	29.42
			Oct-95	9.76	29.77
			Jul-95	10.55	28.98
			Apr-95	8.56	30.97
			Jan-95	8.88	30.65
			Oct-94	10.60	28.93
			Jul-94	12.21	27.32
			Apr-94	12.52	27.01
			Jan-94	12.45	27.08
			Oct-93	12.04	27.49
			Jul-93	11.53	28.00
			Apr-93	11.04	28.49
			Jan-93	10.77	28.76
			Oct-92	13.26	26.27
			Jul-92	15.61	23.92
			Apr-92	14.84	24.69
			Jan-92	13.61	25.92
			Oct-91	18.18	21.35
			Jul-91	17.39	22.14
			Apr-91	14.97	24.56
			Jan-91	17.67	21.86
			Oct-90	16.46	23.07
			Jul-90	16.19	23.34
			Apr-90	15.29	24.24
			Jan-90	15.13	24.40
			Oct-89	11.71	27.82
			Sep-89	10.17	29.36
			Apr-89	12.21	27.32
		39.53	Jan-89	11.84	27.69
			Oct-88	11.36	28.21
			Jul-88	11.22	28.35
			Apr-88	10.71	28.86
			Feb-88	10.09	29.48
			Nov-87	9.89	29.68
			Oct-87	9.01	30.56
			Jul-86	8.13	31.44
			May-86	8.19	31.38
			Apr-86	7.80	31.77
			Mar-86	6.20	33.37
			Mar-86	6.05	33.52
		39.57	Jan-86	7.90	34.19

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-8A	A		Oct-13	7.25	33.13
			Oct-12	6.86	33.52
			Oct-11	6.68	33.70
			Oct-10	6.85*	33.53
			Apr-10	6.16	34.22
			Oct-09	7.50	32.88
			Oct-08	6.54	33.84
		40.38	Oct-07	6.02	34.36
			Oct-06	6.35	31.33
			Oct-05	6.48	31.20
			Oct-04	7.70	29.98
			Oct-03	7.27	30.41
		37.68	Oct-02	8.10	29.58
			Oct-01	8.43	29.89
			Oct-00	9.43	28.89
			Oct-99	8.88	29.44
			Apr-99	8.75	29.57
			Oct-98	9.27	29.05
			Apr-98	8.21	30.11
		38.32	Oct-97	10.95	27.37
			Apr-97	10.95	27.37
			Oct-96	13.00	25.32
			Jul-96	13.09	25.23
			Oct-95	16.02	22.30
			Jul-95	15.90	22.42
			Apr-95	12.76	25.56
			Jan-95	11.91	26.41
			Oct-94	11.95	26.37
			Jul-94	12.67	25.65
			Apr-94	13.20	25.12
			Jan-94	13.97	24.35
			Oct-93	15.78	22.54
			Jul-93	12.52	25.80
			Apr-93	15.57	22.75
			Jan-93	12.92	25.40
			Oct-92	13.23	25.09
			Jul-92	14.08	24.24
			Apr-92	14.76	23.56
			Jan-92	15.40	22.92
			Oct-91	15.68	22.64
			Jul-91	15.21	23.11
			Apr-91	14.54	23.78
			Jan-91	15.84	22.48
			Oct-90	15.46	22.86
			Jul-90	14.73	23.59
			Apr-90	15.11	23.21
			Jan-90	14.10	24.22
			Oct-89	16.67	21.65
			Sep-89	14.40	23.92
			Apr-89	15.06	23.26
		38.32	Jan-89	NM	NA
			Oct-88	14.77	23.59
			Jul-88	15.85	22.51
			Apr-88	NM	NA
			Feb-88	11.09	27.27
			Nov-87	10.70	27.66
			Oct-87	9.66	28.70
			Jul-86	13.34	25.02
			May-86	11.55	26.81
		38.36	Mar-86	6.11	34.27

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-9A	A		Oct-13	7.71	31.51
			Oct-12	7.26	31.96
			Oct-11	7.07	32.15
			Oct-10	7.53	31.69
			Oct-09	7.89	31.33
			Oct-08	6.80	32.42
		39.22	Oct-07	6.33	32.89
		36.52	Oct-06	6.77	23.02
			Oct-05	6.53	30.68
			Oct-04	7.84	29.37
			Oct-03	7.51	29.70
			Oct-02	8.27	28.94
			Oct-01	8.67	28.54
			Oct-00	11.30	25.91
			Oct-99	9.94	27.27
			Apr-99	10.07	27.14
			Oct-98	9.17	28.04
			Apr-98	8.57	28.64
		37.21	Oct-97	11.29	25.92
			Apr-97	9.88	27.34
			Oct-96	11.03	26.19
			Jul-96	10.67	26.55
			Oct-95	11.33	25.89
			Jul-95	11.00	26.22
			Apr-95	8.84	28.38
			Jan-95	11.12	26.10
			Oct-94	12.72	24.50
			Jul-94	12.85	24.37
			Apr-94	12.93	24.29
			Jan-94	15.20	22.02
			Oct-93	13.26	23.96
			Jul-93	12.80	24.42
			Apr-93	14.12	23.10
			Jan-93	Dry	NA
			Oct-92	13.21	24.01
			Jul-92	13.97	23.25
			Apr-92	14.52	22.70
			Jan-92	15.04	22.18
			Oct-91	15.34	21.88
			Jul-91	14.94	22.28
			Apr-91	14.31	22.91
			Jan-91	15.57	21.65
			Oct-90	15.26	21.96
			Jul-90	14.58	22.64
			Apr-90	14.10	23.12
			Jan-90	14.09	23.13
			Oct-89	14.63	22.59
			Sep-89	13.43	23.79
			Apr-89	12.54	24.68
		37.22	Jan-89	12.33	24.89
			Oct-88	12.34	24.88
			Jul-88	11.85	25.37
			Apr-88	12.01	25.21
			Feb-88	12.80	24.42
			Nov-87	11.98	25.24
			Oct-87	9.66	27.56
			May-86	12.12	25.10
			Mar-86	11.85	25.37
			Mar-86	13.50	23.72
		37.22	Mar-86	6.12	33.10

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-13A	A		Oct-13	7.49	33.27
			Oct-12	7.12	33.64
			Oct-11	7.04	33.72
			Oct-10	7.44	33.32
			Apr-10	6.38	34.38
			Oct-09	7.78	32.98
			Oct-08	6.92	33.84
		40.76	Oct-07	6.31	34.45
		38.06	Oct-06	6.58	31.48
T-14A	A		Oct-13	7.46	33.16
			Oct-12	7.07	33.55
			Oct-11	6.93	33.69
			Oct-10	7.38	33.24
			Apr-10	6.28	34.34
			Oct-09	7.71	32.91
			Oct-08	6.73	33.89
		40.62	Oct-07	6.30	34.32
		37.92	Oct-06	6.52	31.40
T-15A	A		Oct-13	7.38	32.73
			Oct-12	6.98	33.13
			Oct-11	6.81	33.30
			Oct-10	7.28	32.83
			Oct-09	7.61	32.50
			Oct-08	6.68	33.43
		40.11	Oct-07	6.15	33.96
		37.41	Oct-06	6.48	30.93
T-16A	A		Oct-13	7.56	32.46
			Oct-12	7.11	32.91
			Oct-11	6.91	33.11
			Oct-10	7.36	32.66
			Oct-09	7.74	32.28
			Oct-08	6.75	33.27
		40.02	Oct-07	6.30	33.72
		37.32	Oct-06	6.60	30.72
T-17A	A	38.23	Oct-13	7.82	30.41

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
36S	A		Oct-13	DRY	--
			Oct-12	DRY	--
			Oct-11	6.25	35.21
			Oct-10	6.65	34.81
			Oct-09	6.83	34.63
			Oct-08	6.29	35.17
		41.46	Oct-07	5.92	35.54
			Oct-06	6.07	32.55
			Oct-05	6.20	32.42
			Oct-04	6.93	31.69
			Oct-03	6.60	32.02
			Oct-02	7.37	31.25
			Oct-01	7.47	31.15
			Oct-00	7.79	30.83
			Oct-99	7.70	30.92
			Apr-99	7.14	31.48
			Oct-98	7.39	31.23
			Apr-98	6.58	32.04
		38.62	Oct-97+	8.50	30.12
			Apr-97	7.85	31.18
			Oct-96	9.40	29.63
			Jul-96	9.14	29.89
			Oct-95	9.02	30.01
			Jul-95	9.25	29.78
			Apr-95	7.59	31.44
			Jan-95	7.60	31.43
			Oct-94	9.37	29.66
			Jul-94	10.90	28.13
			Apr-94	11.48	27.55
			Jan-94	11.82	27.21
			Oct-93	11.40	27.63
			Jul-93	10.69	28.34
			Apr-93	9.66	29.37
			Jan-93	11.35	27.68
			Oct-92	11.81	27.22
			Jul-92	11.80	27.23
			Apr-92	9.36	29.67
			Jan-92	12.98	26.05
			Oct-91	14.23	24.80
			Jul-91	13.93	25.10
			Apr-91	13.08	25.95
			Jan-91	Dry	NA
			Oct-90	11.33	27.70
			Jul-90	13.67	25.36
			Apr-90	12.64	26.39
			Jan-90	10.87	28.16
			Oct-89	10.72	28.31
			Sep-89	10.79	28.24
			Apr-89	11.60	27.43
		39.03	Jan-89	11.14	27.89
			Oct-88	10.93	28.28
			Jul-88	10.47	28.74
			Apr-88	10.19	29.02
			Feb-88	9.54	29.67
			Nov-87	9.33	29.88
			Oct-87	8.55	30.66
			Jul-86	7.42	31.79
			May-86	6.51	32.70
			Apr-86	7.50	31.71
			Mar-86	5.94	33.27
			Mar-86	6.08	33.13
		39.21	Jan-86	7.50	33.96

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
36D	A		Oct-13	6.44	34.82
			Oct-12	6.20	35.06
			Oct-11	6.03	35.23
			Oct-10	6.43	34.83
			Oct-09	6.61	34.65
			Oct-08	6.02	35.24
		41.26	Oct-07	5.67	35.59
			Oct-06	5.82	32.58
			Oct-05	5.96	32.44
			Oct-04	6.72	31.68
			Oct-03	6.40	32.00
			Oct-02	7.12	31.28
			Oct-01	7.24	31.16
			Oct-00	7.52	30.88
			Oct-99	7.43	30.97
			Apr-99	7.17	31.23
			Oct-98	7.19	31.21
			Apr-98	6.38	32.02
		38.40	Oct-97+	8.20	30.20
			Apr-97	7.61	31.27
			Oct-96	9.16	29.72
			Jul-96	8.89	29.99
			Oct-95	8.71	30.17
			Jul-95	9.03	29.85
			Apr-95	7.41	31.47
			Jan-95	7.57	31.31
			Oct-94	9.02	29.86
			Jul-94	10.76	28.12
			Apr-94	11.26	27.62
			Jan-94	11.62	27.26
			Oct-93	11.26	27.62
			Jul-93	10.60	28.28
			Apr-93	11.00	27.88
			Jan-93	11.67	27.21
			Oct-92	11.40	27.48
			Jul-92	12.52	26.36
			Apr-92	10.68	28.20
			Jan-92	14.37	24.51
			Oct-91	14.51	24.37
			Jul-91	14.28	24.60
			Apr-91	13.66	25.22
			Jan-91	14.83	24.05
			Oct-90	13.26	25.62
			Jul-90	13.93	24.95
			Apr-90	13.55	25.33
			Jan-90	12.51	26.37
			Oct-89	11.68	27.20
			Sep-89	11.71	27.17
			Apr-89	11.35	27.53
		38.88	Jan-89	10.95	27.93
			Oct-88	10.74	28.32
			Jul-88	10.23	28.83
			Apr-88	9.96	29.10
			Feb-88	9.35	29.71
			Nov-87	9.08	29.98
			Oct-87	8.32	30.74
			Jul-86	7.32	31.74
			May-86	7.37	31.69
			Apr-86	NM	NA
			Apr-86	7.20	31.86
			Apr-86	NM	NA
			Mar-86	NM	NA
			Mar-86	5.82	33.24
			Mar-86	5.90	33.16
			Mar-86	NM	NA
		39.06	Jan-86	7.50	33.76

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
37S	A		Oct-13	7.01	35.05
			Oct-12	6.56	35.50
			Oct-11	6.43	35.63
			Oct-10	6.92	35.14
			Oct-09	7.30	34.76
			Oct-08	6.20	35.86
		42.06	Oct-07	5.60	36.46
			Oct-06	5.95	33.84
			Oct-05	6.21	33.58
			Oct-04	7.82	31.97
			Oct-03	7.38	32.41
		39.79	Oct-02	8.23	31.56
			Oct-01	8.40	30.84
			Oct-00	8.49	30.75
			Oct-99	7.70	30.92
			Oct-99	8.36	30.88
			Apr-99	7.14	31.48
			Apr-99	8.33	30.91
			Oct-98	8.42	30.82
			Apr-98	7.38	31.86
		39.24	Oct-97+	9.20	30.04
			Apr-97	8.29	31.41
			Oct-96	9.67	30.03
			Jul-96	9.25	30.45
			Oct-95	9.86	29.84
			Jul-95	9.85	29.85
			Apr-95	8.34	31.36
			Jan-95	10.56	29.14
			Oct-94	10.69	29.01
			Jul-94	11.81	27.89
			Apr-94	12.46	27.24
			Jan-94	12.73	26.97
			Oct-93	11.72	27.98
			Jul-93	12.01	27.69
			Apr-93	9.80	29.90
			Jan-93	Dry	NA
			Oct-92	Dry	NA
			Jul-92	Dry	NA
			Apr-92	Dry	NA
			Jan-92	Dry	NA
			Oct-91	Dry	NA
			Jul-91	Dry	NA
			Apr-91	Dry	NA
			Jan-91	Dry	NA
			Oct-90	Dry	NA
			Jul-90	Dry	NA
			Apr-90	Dry	NA
			Jan-90	Dry	NA
			Oct-89	12.20	27.50
			Sep-89	11.73	27.97
			Apr-89	13.00	26.70
		39.70	Jan-89	12.47	27.23
			Oct-88	12.03	28.16
			Jul-88	11.92	28.27
			Apr-88	11.24	28.95
			Feb-88	10.65	29.54
			Nov-87	10.64	29.55
			Oct-87	8.53	31.66
			Jul-86	8.53	31.66
			May-86	8.54	31.65
			Mar-86	6.44	33.75
			Mar-86	6.42	33.77
		40.19	Jan-86	8.20	33.86

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
38S	A		Oct-13	8.64	32.41
			Oct-12	8.25	32.80
			Oct-11	8.05	33.00
			Oct-10	8.55	32.50
			Oct-09	9.02	32.03
			Oct-08	7.71	33.34
		41.05	Oct-07	7.07	33.98
			Oct-06	7.56	30.79
			Oct-05	7.57	30.78
			Oct-04	9.12	29.23
			Oct-03	8.63	29.72
			Oct-02	9.57	28.78
			Oct-01	10.05	28.30
			Oct-00	11.21	27.14
			Oct-99	10.50	27.85
			Apr-99	10.72	27.63
			Oct-98	10.81	27.54
			Apr-98	9.15	29.20
		38.35	Oct-97+	11.63	26.72
			Apr-97	10.45	28.40
			Oct-96	11.91	26.94
			Jul-96	11.74	27.11
			Oct-95	12.12	26.73
			Jul-95	11.62	27.23
			Apr-95	9.50	29.35
			Jan-95	11.36	27.49
			Oct-94	9.81	29.04
			Jul-94	13.70	25.15
			Apr-94	14.19	24.66
			Jan-94	14.45	24.40
			Oct-93	Dry	NA
			Jul-93	14.30	24.55
			Apr-93	13.08	25.77
			Jan-93	13.97	24.88
			Oct-92	Dry	NA
			Jul-92	Dry	NA
			Apr-92	Dry	NA
			Jan-92	Dry	NA
			Oct-91	Dry	NA
			Jul-91	Dry	NA
			Apr-91	Dry	NA
			Jan-91	Dry	NA
			Oct-90	Dry	NA
			Jul-90	Dry	NA
			Apr-90	Dry	NA
			Jan-90	Dry	NA
			Oct-89	14.32	24.53
			Sep-89	14.53	24.32
			Apr-89	13.97	24.88
		38.85	Jan-89	13.68	25.17
			Oct-88	13.62	25.52
			Jul-88	13.12	26.02
			Apr-88	12.68	26.46
			Feb-88	12.55	26.59
			Nov-87	12.68	26.46
			Oct-87	11.49	27.65
			Jul-86	10.52	28.62
			May-86	9.95	29.19
			Mar-86	7.34	31.80
		39.14	Jan-86	8.80	32.25

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
EDUCTOR	A	*corrected for soybean oil	Oct-13	8.45*	33.79
			Oct-12	8.08	34.16
			Oct-11	8.39	33.85
			Oct-10	8.48	33.76
			Oct-09	8.81	33.43
			Oct-08	7.88	34.36
		42.24	Oct-07	7.50	34.74
			Oct-06	7.78	31.76
			Oct-05	7.89	31.65
			Oct-04	9.03	30.51
			Oct-03	8.57	30.97
		39.54	Oct-02	9.36	30.18
			Oct-01	11.27	29.80
			Oct-00	16.31	24.76
			Oct-99	15.97	25.10
			Apr-99	16.08	24.99
			Oct-98	11.87	29.20
			Apr-98	16.09	24.98
		41.07	Oct-97	16.22	24.85
			Apr-97	15.90	24.38
			Oct-96	NM	NA
			Jul-96	16.37	23.91
			Oct-95	16.25	24.03
			Jul-95	16.08	24.20
			Apr-95	16.11	24.17
			Jan-95	15.98	24.30
			Oct-94	16.24	24.04
			Jul-94	16.35	23.93
			Apr-94	16.56	23.72
			Jan-94	16.50	23.78
			Oct-93	16.54	23.74
			Jul-93	16.37	23.91
			Apr-93	15.08	25.20
			Jan-93	15.54	24.74
			Oct-92	13.92	26.36
			Jul-92	15.60	24.68
			Apr-92	15.13	25.15
			Jan-92	15.25	25.03
			Oct-91	16.72	23.56
			Jul-91	16.04	24.24
			Apr-91	14.99	25.29
			Jan-91	12.66	27.62
			Oct-90	12.76	27.52
			Jul-90	11.72	28.56
			Apr-90	11.89	28.39
			Jan-90	12.07	28.21
			Oct-89	12.40	27.88
			Sep-89	11.55	28.73
			Apr-89	11.63	28.65
		40.28	Jan-89	10.59	29.69
			Oct-88	12.33	27.95
			Jul-88	13.30	26.98
			Apr-88	12.95	27.33
			Feb-88	12.74	27.54
			Nov-87	NM	NA
			Oct-87	11.50	28.78
		40.28	May-86	11.59	30.65

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-1B	B1				
Per Water Board approval, well 1B was abandoned in February 2004.					
			Oct-03	9.31	29.71
			Oct-02	10.99	28.03
			Oct-01	11.54	27.48
			Oct-00	13.09	25.93
			Oct-99	11.46	27.56
			Apr-99	11.87	27.15
			Oct-98	11.66	27.36
			Apr-98	10.56	28.46
		39.02	Oct-97	12.90	26.12
		39.53	Apr-97	11.88	27.65
			Oct-96	14.51	25.17
			Jul-96	13.97	25.71
			Oct-95	12.84	26.84
			Jul-95	13.86	25.82
			Apr-95	10.95	28.73
			Jan-95	12.60	27.08
			Oct-94	12.80	26.88
			Jul-94	13.47	26.21
			Apr-94	15.01	24.67
			Jan-94	16.93	22.75
			Oct-93	13.34	26.34
			Jul-93	19.64	20.04
			Apr-93	18.52	21.16
			Jan-93	20.28	19.40
			Oct-92	18.86	20.82
			Jul-92	20.38	19.30
			Apr-92	19.53	20.15
			Jan-92	20.94	18.74
			Oct-91	21.78	17.90
			Jul-91	21.05	18.63
			Apr-91	20.54	19.14
			Jan-91	21.60	18.08
			Oct-90	21.07	18.61
			Jul-90	19.92	19.76
			Apr-90	19.38	20.30
			Jan-90	20.54	19.14
			Oct-89	18.49	21.19
			Sep-89	18.23	21.45
			Apr-89	18.95	20.73
		39.68	Jan-89	15.46	24.22
			Oct-88	15.90	21.50
			Jul-88	15.21	22.19
			Apr-88	14.03	23.37
			Feb-88	12.86	24.54
			Nov-87	12.70	24.70
			Oct-87	10.45	26.95
			Jul-86	9.75	27.65
			May-86	8.23	29.17
			Apr-86	9.40	28.00
			Mar-86	7.47	29.93
			Mar-86	6.29	31.11
		37.40	Jan-86	7.70	29.70

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-2B	B1		Oct-13	8.36	33.87
			Oct-12	8.08	34.15
			Oct-11	7.89	34.34
			Oct-10	8.41	33.82
			Oct-09	8.82	33.41
			Oct-08	8.05	34.18
		42.23	Oct-07	7.29	34.94
			Oct-06	7.57	31.96
			Oct-05	7.71	31.82
			Oct-04	9.04	30.49
			Oct-03	8.56	30.97
		39.53	Oct-02	9.79	29.74
			Oct-01	9.76	29.48
			Oct-00	10.76	28.48
			Oct-99	25.48	13.76
			Apr-99	Dry	NA
			Oct-98	11.89	27.35
			Apr-98	25.58	13.66
		39.24	Oct-97	NM	NA
			Apr-97	26.15	13.52
			Oct-96	14.08	25.59
			Jul-96	23	16.67
			Oct-95	25.44	14.23
			Jul-95	22.58	17.09
			Apr-95	10.75	28.92
			Jan-95	26.98	12.69
			Oct-94	25.32	14.35
			Jul-94	21.36	18.31
			Apr-94	26.18	13.49
			Jan-94	21.31	18.36
			Oct-93	22.98	16.69
			Jul-93	26.50	13.17
			Apr-93	24.94	14.73
			Jan-93	24.65	15.02
			Oct-92	26.35	13.32
			Jul-92	15.70	23.97
			Apr-92	27.36	12.31
			Jan-92	16.95	22.72
			Oct-91	29.98	9.69
			Jul-91	24.67	15.00
			Apr-91	24.75	14.92
			Jan-91	24.32	15.35
			Oct-90	23.96	15.71
			Jul-90	29.13	10.54
			Apr-90	24.96	14.71
			Jan-90	22.99	16.68
			Oct-89	23.53	16.14
			Sep-89	23.42	16.25
			Apr-89	23.84	15.83
		39.67	Jan-89	26.07	13.60
			Oct-88	26.29	13.40
			Jul-88	23.00	16.69
			Apr-88	24.56	15.13
			Feb-88	26.00	13.69
			Nov-87	25.89	13.80
			Oct-87	20.46	19.23
			Jul-86	19.23	20.46
			May-86	26.24	13.45
		39.69	Mar-86	9.19	33.04

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-4B	B1		Oct-13	9.71	31.22
			Oct-12	9.38	31.55
			Oct-11	9.16	31.77
			Oct-10	9.86	31.07
			Oct-09	10.71	30.22
			Oct-08	8.98	31.95
		40.93	Oct-07	7.60	33.33
			Oct-06	8.07	30.16
			Oct-05	8.32	29.91
			Oct-04	10.91	27.32
			Oct-03	11.00	27.23
			Oct-02	12.39	25.84
			Oct-01	13.36	24.87
			Oct-00	16.43	21.80
			Oct-99	14.07	24.16
			Apr-99	16.11	22.12
			Oct-98	13.89	24.34
			Apr-98	12.93	25.30
		38.23	Oct-97	15.89	22.34
			Apr-97	15.63	23.07
			Oct-96	18.70	20.00
			Jul-96	16.78	21.92
			Oct-95	16.75	21.95
			Jul-95	16.33	22.37
			Apr-95	14.26	24.44
			Jan-95	16.87	21.83
			Oct-94	17.33	21.37
			Jul-94	20.57	18.13
			Apr-94	22.16	16.54
			Jan-94	22.61	16.09
			Oct-93	19.84	18.86
			Jul-93	22.40	16.30
			Apr-93	21.46	17.24
			Jan-93	22.31	16.39
			Oct-92	20.42	18.28
			Jul-92	22.19	16.51
			Apr-92	21.83	16.87
			Jan-92	22.57	16.13
			Oct-91	24.44	14.26
			Jul-91	23.36	15.34
			Apr-91	22.69	16.01
			Jan-91	23.04	15.66
			Oct-90	22.95	15.75
			Jul-90	NM	NA
			Apr-90	20.47	18.23
			Jan-90	21.53	17.17
			Oct-89	19.50	19.20
			Sep-89	19.64	19.06
			Apr-89	20.95	17.75
		38.70	Jan-89	20.75	17.95
			Oct-88	20.98	17.98
			Jul-88	19.87	19.09
			Apr-88	19.63	19.33
			Feb-88	18.67	20.29
			Nov-87	19.59	19.37
			Oct-87	15.32	23.64
			Jul-86	15.88	23.08
			May-86	11.51	27.45
			Apr-86	15.60	23.36
			Mar-86	12.96	26.00
		38.96	Jan-86	9.30	31.63

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-5B	B1		Oct-13	9.99	32.46
			Oct-12	10.33	32.12
			Oct-11	10.04	32.41
			Oct-10	10.45	32.00
			Oct-09	14.55	27.90
			Oct-08	15.72	26.73
		42.45	Oct-07	4.99	37.46
			Oct-06	5.31	34.44
			Oct-05	6.17	33.58
			Oct-04	13.70	26.05
			Oct-03	13.95	25.80
		39.75	Oct-02	15.43	24.32
			Oct-01	14.99	24.22
			Oct-00	19.25	19.96
			Oct-99	10.46	28.75
			Apr-99	19.38	19.83
			Oct-98	17.77	21.44
			Apr-98	15.45	23.76
		39.21	Oct-97	17.32	21.89
			Apr-97	17.28	22.39
			Oct-96	20.60	19.07
			Jul-96	20.65	19.02
			Oct-95	18.24	21.43
			Jul-95	18.75	20.92
			Apr-95	17.70	21.97
			Jan-95	18.75	20.92
			Oct-94	18.77	20.90
			Jul-94	20.93	18.74
			Apr-94	21.13	18.54
			Jan-94	22.15	17.52
			Oct-93	20.65	19.02
			Jul-93	21.08	18.59
			Apr-93	21.24	18.43
			Jan-93	19.04	20.63
			Oct-92	17.55	22.12
			Jul-92	20.80	18.87
			Apr-92	20.59	19.08
			Jan-92	23.07	16.60
			Oct-91	23.79	15.88
			Jul-91	23.00	16.67
			Apr-91	22.81	16.86
			Jan-91	23.27	16.40
			Oct-90	22.87	16.80
			Jul-90	23.06	16.61
			Apr-90	22.92	16.75
			Jan-90	21.85	17.82
			Oct-89	21.03	18.64
			Sep-89	21.12	18.55
			Apr-89	20.55	19.12
		39.67	Jan-89	20.80	18.87
			Oct-88	20.71	19.96
			Jul-88	18.63	22.04
			Apr-88	19.20	21.47
			Feb-88	16.62	24.05
			Nov-87	17.12	23.55
			Oct-87	15.75	24.92
			Jul-86	10.86	29.81
			May-86	10.11	30.56
			Apr-86	11.20	29.47
			Mar-86	10.37	30.30
		40.67	Jan-86	10.00	32.45

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-7B	B1		Oct-13	6.73	35.28
			Oct-12	6.55	35.46
			Oct-11	6.39	35.62
			Oct-10	7.94*	34.07
			Oct-09	8.47	33.54
			Oct-08	8.76	33.25
		42.01	Oct-07	4.93	37.08
			Oct-06	5.14	34.17
			Oct-05	5.61	33.70
			Oct-04	9.35	29.96
			Oct-03	8.62	30.69
		39.31	Oct-02	12.24	27.07
			Oct-01	12.67	26.20
			Oct-00	14.68	24.19
			Oct-99	11.31	27.56
			Apr-99	14.74	24.13
			Oct-98	13.62	25.25
			Apr-98	12.54	26.33
		38.87	Oct-97	14.34	24.53
			Apr-97	14.22	25.22
			Oct-96	16.68	22.76
			Jul-96	16.35	23.09
			Oct-95	14.50	24.94
			Jul-95	15.71	23.73
			Apr-95	13.99	25.45
			Jan-95	15.45	23.99
			Oct-94	15.67	23.77
			Jul-94	17.76	21.68
			Apr-94	17.90	21.54
			Jan-94	19.20	20.24
			Oct-93	16.60	22.84
			Jul-93	17.95	21.49
			Apr-93	18.53	20.91
			Jan-93	19.15	20.29
			Oct-92	16.52	22.92
			Jul-92	17.63	21.81
			Apr-92	17.20	22.24
			Jan-92	20.98	18.46
			Oct-91	21.77	17.67
			Jul-91	20.77	18.67
			Apr-91	20.48	18.96
			Jan-91	21.01	18.43
			Oct-90	20.79	18.65
			Jul-90	21.16	18.28
			Apr-90	20.37	19.07
			Jan-90	20.56	18.88
			Oct-89	19.60	19.84
			Sep-89	19.35	20.09
			Apr-89	16.99	22.45
		39.44	Jan-89	17.82	21.62
			Oct-88	18.16	21.27
			Jul-88	16.37	23.06
			Apr-88	16.83	22.60
			Feb-88	15.21	24.22
			Nov-87	15.75	23.68
			Oct-87	13.98	25.45
			Jul-86	10.75	28.68
			May-86	9.65	29.78
			Apr-86	11.00	28.43
			Mar-86	9.90	29.53
			Mar-86	8.16	31.27
		39.43	Jan-86	9.70	32.31

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-8B	B1		Oct-13	7.31	33.02
			Oct-12	6.93	33.40
			Oct-11	6.74	33.59
			Oct-10	7.21	33.12
			Oct-09	7.60	32.73
			Oct-08	6.68	33.65
		40.33	Oct-07	6.05	34.28
			Oct-06	6.35	31.28
			Oct-05	6.46	31.17
			Oct-04	7.75	29.88
			Oct-03	7.34	30.29
		37.63	Oct-02	8.23	29.40
			Oct-01	8.64	29.66
			Oct-00	9.68	28.62
			Oct-99	14.37	23.93
			Apr-99	15.83	22.47
			Oct-98	14.77	23.53
			Apr-98	13.83	24.47
		38.30	Oct-97	13.44	24.86
			Apr-97	28.40	9.90
			Oct-96	30.87	7.43
			Jul-96	10.97	27.33
			Oct-95	31.00	7.30
			Jul-95	11.11	27.19
			Apr-95	31.59	6.71
			Jan-95	29.36	8.94
			Oct-94	25.92	12.38
			Jul-94	24.00	14.30
			Apr-94	23.25	15.05
			Jan-94	25.92	12.38
			Oct-93	21.81	16.49
			Jul-93	13.10	25.20
			Apr-93	24.44	13.86
			Jan-93	14.67	23.63
			Oct-92	14.51	23.79
			Jul-92	16.34	21.96
			Apr-92	20.11	18.19
			Jan-92	16.06	22.24
			Oct-91	27.44	10.86
			Jul-91	24.89	13.41
			Apr-91	25.41	12.89
			Jan-91	24.15	14.15
			Oct-90	23.80	14.50
			Jul-90	24.13	14.17
			Apr-90	26.09	12.21
			Jan-90	14.56	23.74
			Oct-89	13.86	24.44
			Sep-89	22.32	15.98
			Apr-89	24.65	13.65
		38.30	Jan-89	NM	NA
			Oct-88	24.34	14.00
			Jul-88	12.47	25.87
			Apr-88	26.35	11.99
			Feb-88	30.26	8.08
			Nov-87	11.15	27.19
			Oct-87	21.02	17.32
			Jul-86	10.24	28.10
			May-86	23.50	14.84
			Mar-86	24.30	14.04
		38.34	Mar-86	6.41	33.92

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-9B	B1		Oct-13	8.61	30.28
			Oct-12	8.30	30.59
			Oct-11	8.14	30.75
			Oct-10	8.69	30.20
			Oct-09	9.43	29.46
			Oct-08	8.87	30.02
		38.89	Oct-07	6.97	31.92
		36.19	Oct-06	7.50	28.69
			Oct-05	7.65	29.67
			Oct-04	9.68	27.64
			Oct-03	10.20	27.12
			Oct-02	11.31	26.01
			Oct-01	11.73	25.59
			Oct-00	18.41	18.91
			Oct-99	14.94	22.38
			Apr-99	16.40	20.92
			Oct-98	12.62	24.70
			Apr-98	13.83	23.49
		37.32	Oct-97	15.82	21.50
		37.01	Apr-97	14.57	22.44
			Oct-96	16.98	20.13
			Jul-96	16.43	20.68
			Oct-95	14.82	22.29
			Jul-95	16.40	20.71
			Apr-95	13.00	24.11
			Jan-95	16.34	20.77
			Oct-94	22.64	14.47
			Jul-94	20.45	16.66
			Apr-94	28.23	8.88
			Jan-94	29.42	7.69
			Oct-93	26.50	10.61
			Jul-93	30.58	6.53
			Apr-93	28.91	8.20
			Jan-93	29.41	7.70
			Oct-92	29.77	7.34
			Jul-92	31.47	5.64
			Apr-92	30.91	6.20
			Jan-92	31.80	5.31
			Oct-91	Dry	NA
			Jul-91	31.91	5.20
			Apr-91	22.70	14.41
			Jan-91	23.99	13.12
			Oct-90	31.99	5.12
			Jul-90	18.31	18.80
			Apr-90	20.54	16.57
			Jan-90	25.75	11.36
			Oct-89	21.48	15.63
			Sep-89	17.32	19.79
			Apr-89	23.66	13.45
		37.11	Jan-89	24.33	12.78
			Oct-88	26.65	10.49
			Jul-88	24.97	12.17
			Apr-88	23.50	13.64
			Feb-88	21.99	15.15
			Nov-87	19.34	17.80
			Oct-87	12.15	24.99
			Jul-86	27.67	9.47
			May-86	8.94	28.20
			Mar-86	24.25	12.89
			Mar-86	24.45	12.69
		37.14	Mar-86	6.75	32.14

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-10B	B1		Oct-13	7.52	32.57
			Oct-12	7.12	32.97
			Oct-11	6.82	33.27
			Oct-10	7.05*	33.04
			Oct-09	7.76	32.33
			Oct-08	6.81	33.28
		40.09	Oct-07	6.19	33.90
			Oct-06	6.56	30.83
			Oct-05	6.62	30.77
			Oct-04	7.86	29.53
			Oct-03	7.41	29.98
			Oct-02	8.44	28.95
		37.39	Oct-01	8.81	28.58
T-17B	B1		Oct-13	7.92	32.69
			Oct-12	7.20	33.41
			Oct-11	7.27	33.34
			Oct-10	7.80	32.81
			Oct-09	8.36	32.25
			Oct-08	7.12	33.49
		40.61	Oct-07	6.11	34.50
		37.91	Oct-06	6.51	31.40
T-18B	B1	38.78	Oct-13	6.28	32.50
T-19B	B1	38.72	Oct-13	7.20	31.52

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-2C	B2		Oct-13	8.98	32.40
			Oct-12	8.75	32.63
			Oct-11	8.36	33.02
			Oct-10	6.69	34.69
			Oct-09	10.56	30.82
			Oct-08	11.58	29.80
		41.38	Oct-07	6.39	34.99
			Oct-06	6.83	31.85
			Oct-05	7.53	31.15
			Oct-04	11.01	27.67
			Oct-03	11.66	27.02
		38.68	Oct-02	13.91	24.77
			Oct-01	17.50	22.01
			Oct-00	18.40	21.11
			Oct-99	25.18	14.33
			Apr-99	31.50	8.01
			Oct-98	15.45	24.06
			Apr-98	19.25	20.26
		39.51	Oct-97	29.50	10.01
			Apr-97	33.65	5.72
			Oct-96	31.00	8.37
			Jul-96	31	8.37
			Oct-95	31.59	7.78
			Jul-95	35.45	3.92
			Apr-95	18.21	21.16
			Jan-95	34.94	4.43
			Oct-94	31.41	7.96
			Jul-94	35.63	3.74
			Apr-94	40.30	-0.93
			Jan-94	44.54	-5.17
			Oct-93	38.82	0.55
			Jul-93	40.11	-0.74
			Apr-93	37.88	1.49
			Jan-93	39.84	-0.47
			Oct-92	42.87	-3.50
			Jul-92	46.92	-7.55
			Apr-92	42.57	-3.20
			Jan-92	47.25	-7.88
			Oct-91	47.67	-8.30
			Jul-91	36.12	3.25
			Apr-91	31.69	7.68
			Jan-91	29.47	9.90
			Nov-90	40.05	-0.68
			Aug-90	50.84	-11.47
			Apr-90	40.29	-0.92
			Jan-90	31.47	7.90
			Oct-89	33.84	5.53
			Sep-89	44.24	-4.87
			Apr-89	38.92	0.45
		39.37	Jan-89	NM	NA
			Oct-88	36.86	2.54
			Jul-88	35.70	3.70
			Apr-88	NM	NA
			Feb-88	34.71	4.69
			Nov-87	35.18	4.22
			Oct-87	25.15	14.25
		39.40	Jul-86	29.65	11.73

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-9C	B2		Oct-13	8.54	30.27
			Oct-12	8.33	30.48
			Oct-11	7.99	30.82
			Oct-10	9.4	29.41
			Oct-09	9.74	29.07
			Oct-08	11.13	27.68
		38.81	Oct-07	6.13	32.68
			Oct-06	6.78	29.33
			Oct-05	7.88	28.23
			Oct-04	10.45	25.66
			Oct-03	11.41	24.70
			Oct-02	12.98	23.13
			Oct-01	15.28	20.83
			Oct-00	17.64	18.47
			Oct-99	12.70	23.41
			Apr-99	18.44	17.67
			Oct-98	14.83	21.28
			Apr-98	13.16	22.95
		36.11	Oct-97	17.15	18.96
		36.57	Apr-97	15.69	20.88
			Oct-96	22.10	14.57
			Jul-96	20.37	16.30
			Oct-95	18.43	18.24
			Jul-95	20.42	16.25
			Apr-95	18.23	18.44
			Jan-95	20.94	15.73
			Oct-94	18.96	17.71
			Jul-94	22.57	14.10
			Apr-94	23.61	13.06
			Jan-94	24.99	11.68
			Oct-93	23.70	12.97
			Jul-93	23.42	13.25
			Apr-93	22.00	14.67
			Jan-93	22.95	13.72
			Oct-92	19.03	17.64
			Jul-92	21.73	14.94
			Apr-92	21.37	15.30
			Jan-92	23.55	13.12
			Oct-91	25.07	11.60
			Jul-91	23.60	13.07
			Apr-91	23.16	13.51
			Jan-91	23.58	13.09
			Nov-90	23.97	12.70
			Aug-90	23.39	13.28
			Apr-90	23.09	13.58
			Jan-90	22.51	14.16
			Oct-89	21.99	14.68
			Aug-89	22.74	13.93
			Apr-89	22.11	14.56
		36.67	Jan-89	21.29	15.38
			Oct-88	20.32	16.36
			Jul-88	18.85	17.83
			Apr-88	19.35	17.33
			Feb-88	17.76	18.92
			Nov-87	18.33	18.35
			Oct-87	17.16	19.52
			Jul-86	11.21	25.47
			May-86	9.83	26.85
			Apr-86	10.50	26.18
		36.68	Jan-86	7.20	31.61

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-10C	B2		Oct-13	11.03	28.73
			Oct-12	10.45	29.31
			Oct-11	9.92	29.84
			Oct-10	11.69	28.07
			Oct-09	12.62	27.14
			Oct-08	14.53	25.23
		39.76	Oct-07	6.91	32.85
			Oct-06	7.44	29.62
			Oct-05	8.29	28.77
			Oct-04	13.24	23.82
			Oct-03	14.03	23.03
			Oct-02	15.15	21.91
			Oct-01	16.35	20.71
			Oct-00	21.20	15.86
			Oct-99	13.59	23.47
			Apr-99	22.70	14.36
			Oct-98	17.39	19.67
			Apr-98	15.66	21.40
		37.06	Oct-97	19.91	17.15
		37.66	Apr-97	20.63	17.03
			Oct-96	25.72	11.78
			Jul-96	24.2	13.30
			Oct-95	19.80	17.70
			Jul-95	24.49	13.01
			Apr-95	21.76	15.74
			Jan-95	25.02	12.48
			Oct-94	21.24	16.26
			Jul-94	26.20	11.30
			Apr-94	27.26	10.24
			Jan-94	28.65	8.85
			Oct-93	26.97	10.53
			Jul-93	27.00	10.50
			Apr-93	25.46	12.04
			Jan-93	23.85	13.65
			Oct-92	20.87	16.63
			Jul-92	24.26	13.24
			Apr-92	24.30	13.20
			Jan-92	26.42	11.08
			Oct-91	27.91	9.59
			Jul-91	26.24	11.26
			Apr-91	25.66	11.84
			Jan-91	25.88	11.62
			Nov-90	26.41	11.09
			Aug-90	25.22	12.28
			Apr-90	24.89	12.61
			Jan-90	23.84	13.66
			Oct-89	23.23	14.27
			Sep-89	24.12	13.38
			Apr-89	23.73	13.77
		37.50	Jan-89	23.02	14.48
			Oct-88	22.05	15.46
			Jul-88	20.12	17.39
			Apr-88	20.65	16.86
			Feb-88	18.77	18.74
			Nov-87	19.36	18.15
			Oct-87	18.55	18.96
		37.51	Jul-86	11.73	28.03

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-11C	B2		Oct-13	8.45	30.20
			Oct-12	8.25	30.40
			Oct-11	7.95	30.70
			Oct-10	9.31	29.34
			Oct-09	9.41	29.24
			Oct-08	10.83	27.82
		38.65	Oct-07	6.34	32.31
			Oct-06	6.77	29.18
			Oct-05	7.49	28.46
			Oct-04	10.30	25.65
			Oct-03	11.18	24.77
			Oct-02	12.87	23.08
			Oct-01	14.33	21.62
			Oct-00	16.96	18.99
			Oct-99	12.94	23.01
			Apr-99	17.92	18.03
			Oct-98	14.34	21.61
			Apr-98	13.18	22.77
		35.95	Oct-97	16.81	19.14
		36.49	Apr-97	17.55	18.94
			Oct-96	21.46	15.14
			Jul-96	19.95	16.65
			Oct-95	17.92	18.68
			Jul-95	19.72	16.88
			Apr-95	17.12	19.48
			Jan-95	19.86	16.74
			Oct-94	18.58	18.02
			Jul-94	21.60	15.00
			Apr-94	22.44	14.16
			Jan-94	23.86	12.74
			Oct-93	22.23	14.37
			Jul-93	22.15	14.45
			Apr-93	20.82	15.78
			Jan-93	22.33	14.27
			Oct-92	18.66	17.94
			Jul-92	NM	NA
			Apr-92	20.38	16.22
			Jan-92	22.71	13.89
			Oct-91	24.19	12.41
			Jul-91	22.91	13.69
			Apr-91	22.30	14.30
			Jan-91	22.84	13.76
			Nov-90	22.30	14.30
			Aug-90	23.03	13.57
			Apr-90	NM	NA
			Jan-90	22.28	14.32
			Oct-89	21.82	14.78
			Sep-89	22.62	13.98
			Apr-89	21.74	14.86
			Jan-89	20.83	15.77
			Oct-88	19.78	16.82
			Jul-88	18.64	17.96
			Apr-88	19.12	17.48
			Feb-88	17.78	18.82
			Nov-87	18.28	18.32
			Oct-87	17.28	19.32
		36.60	Jul-86	10.89	27.76

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-12C	B2		Oct-13	7.68	33.06
			Oct-12	7.43	33.31
			Oct-11	7.16	33.58
			Oct-10	8.36	32.38
			Oct-09	8.83	31.91
			Oct-08	9.7	31.04
		40.74	Oct-07	5.91	34.83
			Oct-06	6.24	31.80
			Oct-05	6.92	31.12
			Oct-04	9.42	28.62
			Oct-03	10.11	27.93
			Oct-02	12.39	25.65
			Oct-01	14.35	23.69
			Oct-00	16.23	21.81
			Oct-99	13.77	24.27
			Apr-99	17.66	20.38
			Oct-98	14.12	23.92
			Apr-98	13.45	24.59
		38.04	Oct-97	16.84	21.20
		38.56	Apr-97	17.60	20.96
			Oct-96	21.61	17.01
			Jul-96	19.9	18.72
			Oct-95	18.00	20.62
			Jul-95	19.81	18.81
			Apr-95	16.14	22.48
			Jan-95	20.17	18.45
			Oct-94	18.91	19.71
			Jul-94	21.71	16.91
			Apr-94	22.63	15.99
			Jan-94	24.12	14.50
			Oct-93	22.40	16.22
			Jul-93	22.08	16.54
			Apr-93	21.41	17.21
			Jan-93	22.46	16.16
			Oct-92	20.15	18.47
			Jul-92	21.69	16.93
			Apr-92	21.11	17.51
			Jan-92	23.65	14.97
			Oct-91	25.31	13.31
			Jul-91	24.12	14.50
			Apr-91	23.82	14.80
			Jan-91	23.97	14.65
			Nov-90	23.47	15.15
			Aug-90	24.23	14.39
			Apr-90	24.48	14.14
			Jan-90	23.48	15.14
		38.62	Sep-89	24.42	16.32

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
36DD	B2		Oct-13	6.05	35.53
			Oct-12	5.91	35.67
			Oct-11	5.72	35.86
			Oct-10	6.55	35.03
			Oct-09	6.85	34.73
			Oct-08	6.76	34.82
		41.58	Oct-07	5.45	36.13
			Oct-06	5.76	32.98
			Oct-05	5.92	32.82
			Oct-04	7.07	31.67
			Oct-03	7.03	31.71
			Oct-02	8.64	30.10
			Oct-01	8.91	29.83
			Oct-00	9.40	29.34
			Oct-99	8.75	29.99
			Apr-99	8.72	30.02
			Oct-98	8.75	29.99
			Apr-98	7.87	30.87
		38.74	Oct-97+	9.62	29.12
			Apr-97	8.89	30.31
			Oct-96	10.56	28.64
			Jul-96	10.19	29.01
			Oct-95	9.52	29.68
			Jul-95	10.08	29.12
			Apr-95	8.46	30.74
			Jan-95	8.69	30.51
			Oct-94	10.75	28.45
			Jul-94	12.80	26.40
			Apr-94	12.58	26.62
			Jan-94	12.83	26.37
			Oct-93	12.46	26.74
			Jul-93	11.47	27.73
			Apr-93	10.88	28.32
			Jan-93	13.19	26.01
			Oct-92	12.50	26.70
			Jul-92	13.40	25.80
			Apr-92	10.95	28.25
			Jan-92	15.03	24.17
			Oct-91	15.80	23.40
			Jul-91	15.59	23.61
			Apr-91	14.69	24.51
			Jan-91	16.12	23.08
			Oct-90	14.46	24.74
			Aug-90	14.30	24.90
			Apr-90	14.75	24.45
			Jan-90	14.06	25.14
			Oct-89	13.25	25.95
			Aug-89	14.14	25.06
			Apr-89	13.18	26.02
		39.20	Jan-89	12.82	26.38
			Oct-88	12.36	27.01
			Jul-88	11.79	27.58
			Apr-88	11.52	27.85
			Feb-88	10.94	28.43
			Nov-87	11.08	28.29
			Oct-87	10.21	29.16
			Jul-86	8.23	31.14
			May-86	8.11	31.26
			Apr-86	NM	NA
			Apr-86	NM	NA
			Apr-86	8.10	31.27
			Mar-86	NM	NA
			Mar-86	6.56	32.81
			Mar-86	6.53	32.84
			Mar-86	NM	NA
		39.37	Jan-86	8.10	33.48

Historic Water-Level Elevation Measurements
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number	Zone	Top of Casing Elevation (feet, MSL)	Date Measured	Depth to Water (feet below top of casing)	Water-Level Elevation (feet, MSL)
T-8D	B4		Oct-13	2.57	37.78
			Oct-12	1.81	38.54
			Oct-11	1.49	38.86
			Oct-10	3.14	37.21
			Oct-09	4.01	36.34
			Oct-08	3.20	37.15
		40.35	Oct-07	0.45	39.90
			Oct-06	1.1	36.55
			Oct-05	1.54	36.11
			Oct-04	3.77	33.88
			Oct-03	NM	NA
			Oct-02	5.89	31.76
			Oct-01	5.90	31.75
			Oct-00	8.17	29.48
			Oct-99	4.75	32.90
			Apr-99	5.43	32.22
			Oct-98	5.32	32.33
			Apr-98	3.83	33.82
		37.65	Oct-97	7.83	29.82
		38.19	Apr-97	7.11	31.08
			Oct-96	11.31	26.97
			Jul-96	10.49	27.79
			Oct-95	10.69	27.59
			Jul-95	11.26	27.02
			Apr-95	9.88	28.40
			Jan-95	12.06	26.22
			Oct-94	12.40	25.88
			Jul-94	14.54	23.74
			Apr-94	14.42	23.86
			Jan-94	15.31	22.97
			Oct-93	16.87	21.41
			Jul-93	14.32	23.96
			Apr-93	14.35	23.93
			Jan-93	17.02	21.26
			Oct-92	12.97	25.31
			Jul-92	15.02	23.26
			Apr-92	14.25	24.03
			Jan-92	16.94	21.34
			Oct-91	17.83	20.45
			Jul-91	17.15	21.13
			Apr-91	16.07	22.21
			Jan-91	17.53	20.75
			Oct-90	16.78	21.50
			Jul-90	17.97	20.31
			Apr-90	17.85	20.43
			Jan-90	18.57	19.71
			Oct-89	18.26	20.02
			Sep-89	14.97	23.31
			Apr-89	18.27	20.01
		38.28	Jan-89	17.15	21.13
			Oct-88	17.18	21.11
			Jul-88	15.03	23.26
			Apr-88	14.27	24.02
			Feb-88	13.46	24.83
			Nov-87	14.48	23.81
			Oct-87	14.55	23.74
			Jul-86	9.34	28.95
			May-86	8.03	30.26
			Apr-86	8.10	30.19
		38.29	Jan-86	7.50	32.85

Notes:
Wells resurveyed as needed after work that changes top of casing elevation.
Elevations in NGVD29 prior to 2007. From 2007, elevations in NAVD88.

MSL Mean Sea Level
NM Well not measured due to inaccessibility.
NA Not Applicable
NAVD88 North American Vertical Datum 1988
NGVD29 National Goeodetic Vertical Datum 1929

APPENDIX C

HISTORIC GROUNDWATER VOC ANALYTICAL RESULTS

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-1A ZA																				
Per Water Board approval, well T-1A was abandoned in February 2004.																				
Oct-02	<0.5	404,000	–	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-01	<0.5	28	–	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-00	<2.0	34	–	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-99	<1.0	34	–	–	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	42	2.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<1.0	51	–	–	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-96	<0.5	48	3.6	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	61	–	–	–	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	74	–	–	<5	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	120	–	–	–	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-90	<0.5	110	–	–	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	90	–	–	–	<0.5	<0.5	<0.5	<0.5	–	–	–	<0.5		<0.5	–	–	–	–	–
Aug-89	<0.5	87	–	–	–	<0.5	<0.5	<0.5	0.9	–	–	–	<0.5		<0.5	–	–	–	–	–
Feb-89	<0.5	86	–	–	–	<0.5	<0.5	<0.5	1.3	–	–	–	<0.5		<0.5	–	–	–	–	–
Nov-88	<0.5	88	–	–	–	<0.5	0.5	<0.5	2.7	–	–	–	<0.5		<0.5	–	–	–	–	–
Aug-88	<1.0	60	–	–	67	<1.0	0.9	<1.0	<1.0	–	–	–	<1.0		<1.0	–	–	–	–	–
Jun-88	<0.5	56	–	–	–	<0.5	1.5	<0.5	<0.5	–	–	–	10		<0.5	–	–	–	–	–
Jan-88	<1.0	200	–	–	–	<1.0	3.1	<1.0	1.5	–	–	–	9.1		<1.0	–	–	–	–	–
Oct-87	<2.5	160	–	–	–	<2.5	8.6	<2.5	<2.5	–	–	–	<2.5		<2.5	–	–	–	–	–
Jun-87	<1.0	190	–	–	–	<1.0	7.0	<1.0	<1.0	–	–	–	<1.0		<1.0	–	–	–	–	–
Apr-87	<2.5	160	–	–	–	<2.5	<2.5	<2.5	<2.5	–	–	–	<2.5		<2.5	–	–	–	–	–
Jan-87	<10	140	–	–	–	<10	<10	<10	<10	–	–	–	<10		<10	–	–	–	–	–
Sep-86	<2.0	420	–	–	–	<2.0	5	<2.0	<2.0	–	–	–	<2.0		<2.0	–	–	–	–	–
Jul-86	<1.0	140	–	–	–	<1.0	<1.0	<1.0	<1.0	–	–	–	<1.0		<1.0	–	–	–	–	–
Apr-86	<2.0	340	–	–	–	<2.0	<2.0	<2.0	<2.0	–	–	–	<2.0		<2.0	–	–	–	–	–
Jan-86	<5.0	630	–	–	490	<5.0	<5.0	<5.0	<5.0	–	–	–	NA		<5.0	–	–	–	–	–
Oct-85	10	640	–	–	–	<5.0	30	<5.0	<5.0	–	–	–	<5.0		<5.0	–	–	–	–	–
Nov-84	4	930	–	–	–	NA	5	NA	NA	–	–	–	NA		NA	–	–	–	–	–
Aug-84	5	950	–	–	360	ND	7	ND	ND	–	–	–	ND		ND	–	–	–	–	–
Mar-84	NA	680	–	–	–	NA	NA	NA	NA	–	–	–	NA		NA	–	–	–	–	–
Sep-83	7	1,000	–	–	–	NA	5	ND	<1.0	–	–	–	ND		NA	–	–	–	–	–
Sep-83	3	540	–	–	510	NA	3	ND	<1.0	–	–	–	ND		NA	–	–	–	–	–
Aug-83	<1.0	660	–	–	–	ND	4	<1.0	<1.0	–	–	–	<1.0		ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-2A ZA																				
Oct-13	<0.50	0.76	340	86		430	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	19	85	NA	NA	NA	NA
May-13	<0.50	0.53	130	35		68	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	5.8	43	<0.50	<0.50	<0.50	<1.0
May-13 Dup	<0.50	0.59	160	35		81	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	6.6	47	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	<0.50	120	48		67	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	8.9	78	<0.50	1.9	0.53	2.6
Apr-12	<0.50	0.84	34	16		27	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	6.1	47	<0.50	1.1	0.57	1.8
Oct-11	<0.50	<0.50	12	6	–	11	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	3.4	74	<0.50	1.7	0.94	5.3
May-11	<0.50	0.52	3	2.3	–	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.7	39	<0.50	<0.50	<0.50	<0.50
Mar-11	<0.50	0.68	7	2.5	–	31	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	57	<0.50	1.7	<0.50	4.8
Nov-10	<50	<50	3,200	<50	–	2,700	<50	<50	<50	<50	<100	<50	<50	<100	57	120	–	–	–	–
Oct-10	<20	<20	8,700	75	–	5,400	<20	<20	<20	<20	<40	<20	<20	<40	23	140	<20	<20	<20	<40
Oct-09	<20	<20	–	–	–	1,100	<20	<20	<20	<20	<40	<20	<20	<40	<20	46	<20	<20	<20	<40
Oct-08	<1	2.4	–	–	–	52	<1	<1	<1	<1	<2	<1	<1	<2	9.4	31	<1	<1	<1	<2
Oct-07	<5.0	<5.0	650	280	–	200	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	48	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	25	180	<5.0	–	65	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	<5.0	580	270	–	140	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	41	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	<5.0	170	110	–	35	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	14	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	<5.0	220	190	–	120	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	39	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	<5.0	45	49	–	22	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	18	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	<5.0	110	96	–	50	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	60	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	9.4	13	9.0	–	23	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	13	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	<5.0	150	100	–	49	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	30	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	<5.0	200	69	–	100	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	46	<5.0	<5.0	<5.0	<15
Apr-04	<1.0	4.4	59	<1.0	–	30	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0
Jan-04	<5.0	<5.0	<5.0	<5.0	–	9.7	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Oct-03	<5.0	6.3	66	<5.0	–	130	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	24	<5.0	<5.0	<5.0	<10
Jul-03	<1.0	2.5	17	<1.0	–	48	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	14	NA	19	<1.0	3.8
Apr-03	<1.0	15	7.3	<1.0	–	13	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	6.6	NA	<1.0	<1.0	<2.0
Jan-03	<1.0	16	12	1.1	–	24	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	16	NA	NA	NA	NA
Oct-02	1.2	28	31	2	–	37	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	28	<1.0	<1.0	<1.0	3.9
Jul-02	<1.0	32	94	6.7	–	140	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	NA	NA	7.1	NA	<1.0	<1.0	<2.0
Apr-02	<1.0	4.2	45	<1.0	–	76	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	76	NA	<1.0	<1.0	<2.0
Jan-02	<13	110	210	<13	–	240	<13	<13	<13	ND	<25	<13	NA	ND	20	<13	NA	NA	NA	NA
Nov-01	10	140	180	6.7	–	460	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<5.0	<10
Oct-01	<50	480	230	<50	–	310	<50	<50	<50	<50	<100	<100	<100	<50	NA	<50	NA	<50	<50	<100
Aug-01	19	88	400	8.6	–	690	<1.0	<1.0	1.1	ND	<2.0	<2.0	NA	ND	NA	2.9	NA	1.8	<1.0	5.4
Jun-01	1.1	5.4	57	5.2	–	620	<1.0	1.2	1.9	ND	4.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Mar-01	13	110	360	5.3	–	400	1.6	1.2	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-01	11	120	330	4.2	–	86	2.3	1.3	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<20	160	520	<20	–	330	<20	<20	<20	<20	ND	ND	<20	ND	<20	<20	NA	NA	NA	NA
Oct-99	27	270	220	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	<10	NA	NA	NA	NA
Apr-99	20	210	160	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	<25	NA	NA	NA	NA
Oct-98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Apr-98	20	440	150	<10	–	<10	<10	<10	<10	ND	ND	ND	<40	ND	<10	<25	NA	NA	NA	NA
Oct-97	71	470	320	<25	–	<25	<25	<25	<25	ND	ND	ND	<25	ND	<50	<50	NA	NA	NA	NA
Apr-97	37	330	250	4.4	–	3.1	<1.7	2.1	<1.7	ND	ND	ND	1.8	ND	<1.7	ND	NA	NA	NA	NA
Oct-96	3.3	71	97	1.0	–	9.5	<0.5	0.6	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	14	190	–	–	140	13	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Apr-95	18	280	–	–	300	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-94	<25	320	–	–	530	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	3.9	1,600	–	–	2,216	120	<0.5	21	<0.5	ND	ND	ND	<0.5	ND	2.2	ND	NA	NA	NA	NA
Feb-94	6.3	1,900	–	–	2,723	260	<0.5	32	1.1	ND	ND	ND	1.9	ND	9.6	ND	NA	NA	NA	NA
Oct-93	16	5,800	–	–	4,732	300	<5.0	49	<5.0	ND	ND	ND	<5.0	ND	23	ND	NA	NA	NA	NA
Apr-93	18	1,300	–	–	1,710	14	<0.5	13	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	10	640	–	–	650	80	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	2.1	ND	NA	NA	NA	NA
Apr-92	30	4,400	–	–	410	120	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jan-92	0.8	42	–	–	6.1	4.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	12	120	–	–	50	<1	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Jul-90	40	100	–	–	40	3.3	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	3.4	ND	NA	NA	NA	NA
Apr-90	40	160	–	–	12	7.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-89	84	230	–	–	23	220	<1.0	3	<1.0	–	–	–	<1.0	ND	79	–	–	–	–	–
Aug-89	41	2,300	–	–	30	<10	<10	<10	<10	–	–	–	18	ND	<10	–	–	–	–	–
May-89	140	470	–	–	500	340	<5.0	<5.0	<5.0	–	–	–	<5.0	ND	<5.0	–	–	–	–	–
Feb-89	220	620	–	–	240	<10	<10	<10	<10	–	–	–	380	ND	<10	–	–	–	–	–
Nov-88	260	1,300	–	–	4,200	18,000	<100	<100	<100	–	–	–	<100	ND	<100	–	–	–	–	–
Nov-88	<10	1,300	–	–	3,800	3,600	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Aug-88	250	1,400	–	–	5,700	11,000	<100	<100	<100	–	–	–	<100	ND	<100	–	–	–	–	–
Jun-88	610	4,000	–	–	4,200	4,600	<50	<50	<50	–	–	–	<50	ND	<50	–	–	–	–	–
Jun-88	530	3,200	–	–	3,100	4,000	1.6	15	1.4	–	–	–	<5.0	ND	32	–	–	–	–	–
Oct-87	190	980	–	–	330	40	7.5	<5.0	<5.0	–	–	–	<5.0	ND	46	–	–	–	–	–
Jan-87	380	2,900	–	–	5,500	<50	<50	<50	<50	–	–	–	<50	ND	610	–	–	–	–	–
Jul-86	980	6,400	–	–	5,400	540	<50	<50	<50	–	–	–	<50	ND	650	–	–	–	–	–
Apr-86	1,700	10,000	–	–	30,000	740	<100	<100	<100	–	–	–	<100	ND	<100	–	–	–	–	–
Apr-86	3,700	15,000	–	–	13,000	650	<100	<100	<100	–	–	–	NA	ND	<100	–	–	–	–	–
Mar-86	<100	9,800	–	–	2,500	<100	<100	<100	<100	–	–	–	NA	ND	<100	–	–	–	–	–
Oct-85	4,600	12,000	–	–	15,000	<50	<50	<50	<50	–	–	–	<50	ND	<50	–	–	–	–	–
Nov-84	5,400	520,000	–	–	17,000	NA	<500	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Aug-84	8,600	190,000	–	–	21,000	300	ND	600	ND	–	–	–	ND	ND	ND	–	–	–	–	–
Mar-84	NA	13,000	–	–	NA	NA	NA	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Sep-83	4,000	730,000	–	–	2,000	NA	ND	ND	ND	–	–	–	ND	ND	NA	–	–	–	–	–
Sep-83	7,000	890,000	–	–	3,000	NA	ND	ND	ND	–	–	–	ND	ND	NA	–	–	–	–	–
Aug-83	86,000	6,100,000	–	–	<5.0	<5.0	130	<5.0	<5.0	–	–	–	<5.0	ND	<5.0	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-3A ZA																				
Oct-13	1.9	250	88	2.6		<1.0	<1.0	0.70 J	<1.0		<2.0	<1.0	0.61 J	<2.0	<1.0	<1.0	NA	NA	NA	NA
Oct-12	<1.0	120	38	1.9		<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0
Oct-11	1.8	120	38	1.6	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	1.1	120	42	1.4	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.7	170	44	2.2	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<2	140	8.0	<2	–	<2	<2	<2	<2	<2	<4	<2	<2	<4	<2	<2	<2	<2	<2	<4
Oct-07	<5.0	210	15	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	3.7	230	49	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-05	4.1	180	48	1.3	–	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-04	2.3	130	41	1.7	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<1.0	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-03	<5.0	150	43	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-02	<2.0	180	17	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	<2.0	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-01	<5.0	130	48	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<10	140	71	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	2.1	95	78	<2.0	–	9	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-98	<5.0	140	84	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-97	<5.0	180	100	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<10	ND	NA	NA	NA	NA
Oct-96	2.0	110	52	0.6	–	<0.5	0.9	<0.5	<0.5	ND	ND	ND	0.8	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	2.9	180	–	–	121.2	<2.0	3.1	<1.0	1.1	ND	ND	ND	1.9	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	170	–	–	130	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Feb-94	3.7	130	–	–	60	<1.0	4.6	<0.5	1.2	ND	ND	ND	1.7	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<5.0	280	–	–	120	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	1.1	3.0	–	–	<0.5	<1.0	1.7	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	4.7	17	–	–	<0.5	<0.5	5.9	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	2.0	11	–	–	<0.5	<0.5	2.3	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	5.8	25	–	–	<0.5	<0.5	5.4	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-91	3.2	19	–	–	<0.5	<0.5	6.2	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	2.1	10	–	–	<0.5	<0.5	3.1	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-91	1.4	7.4	–	–	<0.5	<0.5	0.7	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	1.4	11	–	–	<0.5	<0.5	4.2	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-90	<0.5	4.6	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-90	<0.5	1.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-90	<0.5	8.2	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	4	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
Aug-89	0.7	5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
May-89	<1.0	2	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	–	–	–	<1.0	ND	<1.0	–	–	–	–	–
Feb-89	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
Nov-88	<0.5	4	–	–	1.8	<0.5	<0.5	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
Aug-88	0.5	5	–	–	1.1	<0.5	1.1	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
May-88	0.4	2	–	–	0.7	<0.1	0.2	<0.1	<0.1	–	–	–	<0.1	ND	<0.2	–	–	–	–	–
May-88	0.4	2	–	–	0.8	<0.1	0.2	<0.1	<0.1	–	–	–	<0.1	ND	<0.1	–	–	–	–	–
Jan-88	0.7	4	–	–	0.8	<0.5	0.6	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-88	0.5	2	–	–	0.6	<0.1	0.2	<0.1	<0.1	–	–	–	<0.1	ND	<0.2	–	–	–	–	–
Oct-87	15	460	–	–	310	<2.5	16	<2.5	<2.5	–	–	–	<2.5	ND	<2.5	–	–	–	–	–
Jun-87	24	900	–	–	720	<10	72	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Apr-87	20	920	–	–	740	<10	100	12	<10	–	–	–	86	ND	<10	–	–	–	–	–
Jan-87	<10	3,000	–	–	880	<10	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Sep-86	15	560	–	–	340	<2.0	15	<2.0	<2.0	–	–	–	<2.0	ND	<2.0	–	–	–	–	–
Jul-86	180	1,800	–	–	790	<10	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Apr-86	91	1,500	–	–	220	<1.0	12	<1.0	<1.0	–	–	–	<1.0	ND	<1.0	–	–	–	–	–
Oct-85	<25	2,700	–	–	1,100	<25	<25	<25	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Oct-85	170	3,100	–	–	3,200	<50	95	<50	<50	–	–	–	480	ND	<50	–	–	–	–	–
Nov-84	260	1,300	–	–	1,100	NA	42	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Aug-84	210	530	–	–	690	ND	13	ND	2	–	–	–	ND	ND	ND	–	–	–	–	–
Mar-84	NA	240	–	–	NA	NA	NA	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Sep-83	560	300	–	–	91	NA	16	ND	<1.0	–	–	–	52	ND	NA	–	–	–	–	–
Sep-83	580	290	–	–	96	NA	16	NA	<1.0	–	–	–	35	ND	NA	–	–	–	–	–
Aug-83	1,100	1,600	–	–	36	<5.0	0.2	<5.0	<5.0	–	–	–	<5.0	ND	<5.0	–	–	–	–	–
T-6A ZA																				
Oct-07	<0.5	22	17	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	0.62	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-06	<0.5	24	22	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-05	<0.5	21	28	0.51	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-04	<0.5	14	30	0.92	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-03	0.61	8.5	2.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-02	0.72	9.3	2.7	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-01	<0.5	9.2	1.7	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-00	<1.0	7.3	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-99	<1.0	9.4	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	9.4	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<0.5	7.4	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	0.6	ND	<1.0	ND	NA	NA	NA	NA
Oct-96	<0.5	7.6	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	0.8	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	6.5	–	–	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	19	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<0.5	6.3	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	5.6	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	7.8	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	9.0	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Aug-89	<0.5	14	–	–	0.7	<0.5	0.6	<0.5	<0.5	–	–	–	0.7	ND	<0.5	–	–	–	–	–
May-88	<0.5	13	–	–	1.5	<0.5	2.5	<0.5	<0.5	–	–	–	2.1	ND	<0.5	–	–	–	–	–
Jan-88	<0.5	21	–	–	1.6	<0.5	2.6	<0.5	<0.5	–	–	–	2.1	ND	<0.5	–	–	–	–	–
Jan-87	<10	52	–	–	<10	<10	<10	<10	<10	–	–	–	37	ND	<10	–	–	–	–	–
Oct-85	<0.5	68.5	–	–	10	<0.5	12	<0.5	<0.5	–	–	–	21	ND	<0.5	–	–	–	–	–
Mar-84	NA	27	–	–	NA	NA	NA	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-7A ZA																				
Oct-13	1.6 J	240	77	1.7 J		<2.5	<2.5	<2.5	<2.5		<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-13 Dup	1.7 J	250	81	1.8 J		<2.5	<2.5	<2.5	<2.5		<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-12	<2.5	56/63	230	<2.5		<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-11 Dup	<2.5	140	170	<2.5	–	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-11	0.67	140	180	2.1	–	1.8	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10 Dup	<5.0	190	51	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	<5.0	220	56	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-09 Dup	1.6	180	54	1.9	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.6	180	52	2.4	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08 Dup	<4	330	75	<4	–	<4	<4	<4	<4	<4	<8	<4	<4	<8	<4	<4	<4	<4	<4	<8
Oct-08	<4	370	79	4.2	–	<4	<4	<4	<4	<4	<8	<4	<4	<8	<4	<4	<4	<4	<4	<8
Oct-07	<5.0	370	80	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-07 Dup	<5.0	380	81	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	290	100	<5.0	–	NA	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	5.4	<5.0	<5.0	<5.0	<15
Jan-07	NA	430	120	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<4.0	330	85	<4.0	–	<4.0	<4.0	<4.0	<4.0	<4.0	<8.0	<4.0	<4.0	<8.0	<4.0	<4.0	NA	NA	NA	NA
Oct-06 Dup	<2.0	320	76	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<4.0	<2.0	<2.0	NA	NA	NA	NA
Jul-06	<5.0	450	140	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	360	180	9.9	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<2.0	340	130	3.3	–	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-04	<2.0	370	110	4.6	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	<2.0	<8.0	<2.0	<2.0	NA	NA	NA	NA
Apr-04	2.0	340	170	4.4	–	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Oct-03 (1)	<5.0	480	268	8.7	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	<1.0	430	210	2.6	–	<1.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	510	190	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Apr-02	<10	350	160	<10	–	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Jan-02	<10	290	120	<10	–	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Oct-01	<5.0	260	71	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	NA	NA	NA	NA
Jun-01	1.6	220	76	1.4	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	1.2	<2.0
Oct-00	<10	120	87	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	<2.0	130	21	<2.0	–	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-99 Dup	<2.0	140	20	<2.0	–	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-98	<5.0	200	18	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	<25	NA	NA	NA	NA
Oct-97	<10	270	33	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	<50	NA	NA	NA	NA
Oct-96	1.8	260	32	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	1.5	ND	<1.0	ND	NA	NA	NA	NA
Oct-95	<5.0	400	–	–	47	<10	<5.0	<5.0	<5.0	ND	ND	ND	5.9	ND	<5.0	ND	NA	NA	NA	NA
Nov-94	<25	410	–	–	100	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Oct-94	450	1,700	–	–	3,300	<250	<250	<250	<250	ND	ND	ND	<250	ND	<250	ND	NA	NA	NA	NA
Oct-93	<5.0	480	–	–	90	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	2.4	670	–	–	222	<1.0	2	<0.5	1	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	5.0	980	–	–	425	<0.5	3	1	2	ND	ND	ND	1	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	<10	1,200	–	–	980	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jul-91	10	720	–	–	720	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	14	ND	<5.0	ND	NA	NA	NA	NA
Apr-91	<5.0	720	–	–	640	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-90	<5.0	820	–	–	870	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jul-90	<20	810	–	–	20	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Apr-90	<10	1,300	–	–	760	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jan-90	<10	1,300	–	–	640	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Oct-89	<5.0	1,000	–	–	340	<5.0	<5.0	<5.0	<5.0	–	–	–	<10	ND	<5.0	–	–	–	–	–
Oct-89	6	820	–	–	320	<2.0	5	<2.0	<2.0	–	–	–	<2.0	ND	<2.0	–	–	–	–	–
Aug-89	<10	1,400	–	–	340	<10	38	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
May-89	5.7	1,300	–	–	320	<5.0	<5.0	<5.0	<5.0	–	–	–	<5.0	ND	<5.0	–	–	–	–	–
Feb-89	<25	1,200	–	–	190	<25	<25	<25	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Feb-89	<25	1,100	–	–	200	<25	<25	<25	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Nov-88	<10	1,200	–	–	300	<10	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Aug-88	<10	970	–	–	320	<10	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Jun-88	<25	1,200	–	–	610	<25	<25	<25	<25	–	–	–	360	ND	<25	–	–	–	–	–
Jan-88	<50	3,200	–	–	570	<50	<50	<50	<50	–	–	–	<50	ND	<50	–	–	–	–	–
Oct-87	<25	2,700	–	–	1,600	<25	<25	<25	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Jun-87	<25	3,000	–	–	3,900	<25	<25	<25	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Apr-87	<25	2,800	–	–	3,500	<25	<25	59	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Jan-87	<10	3,000	–	–	2,500	<10	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Sep-86	<12	2,200	–	–	1,500	<12	<12	<12	<12	–	–	–	<12	ND	<12	–	–	–	–	–
Jul-86	<25	3,300	–	–	1,900	<25	<25	<25	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Apr-86	<10	1,400	–	–	<10	<10	<10	1,800	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Jan-86	<25	2,500	–	–	1,400	<25	<25	<25	<25	–	–	–	NA	ND	<25	–	–	–	–	–
Oct-85	28	3,800	–	–	4,200	340	87	<50	<50	–	–	–	<50	ND	<50	–	–	–	–	–
Oct-85	<50	3,600	–	–	3,700	<50	<50	<50	<50	–	–	–	690	ND	<50	–	–	–	–	–
Nov-84	15	3,100	–	–	1,800	NA	22	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Aug-84	120	6,800	–	–	2,200	ND	ND	ND	ND	–	–	–	ND	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-8A ZA																				
Oct-13	2.0	110	57	3.6		0.91	0.25 J	0.69	0.46 J		<1.0	<0.50	0.56	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	1.5	110	58	2.8		0.71	<0.50	0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<2.5	160	82	<2.5		<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Apr-12	1.1	110	67	1.1		0.88	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	1.6	140	69	2.1	–	1.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.99	87	65	2.8	–	4.6	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	43	26	2.1	–	3.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.54	36	33	3.2	–	21	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Feb-09	<0.50	21	23	1.4	–	9.2	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-08	0.76	84	28	1.1	–	4.9	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<5.0	59	71	<5.0	–	36.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	170	63	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	8.2	180	81	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	57	34	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	210	94	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	86	83	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	63	44	<5.0	–	5.8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	200	130	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	170	58	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	140	44	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	2.8	130	39	2.3	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<1.0	<4.0	<1.0	<1.0	NA	NA	NA	NA
Jul-04	<5.0	150	50	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-04	3.2	120	45	2.5	–	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Jan-04	<5.0	110	33	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Oct-03	<5.0	140	48	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Jul-03	2.0	150	41	1.2	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Mar-03	1.9	150	45	<1.0	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-03	3.3	140	49	1.2	–	<2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	<2.0	<1.0	NA	<1.0	NA	NA	NA	NA
Oct-02	2.4	130	54	1.4	–	14	1.2	2.8	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	1.3	<1.0	1.2	<2.0
Jul-02	<1.0	120	44	<1.0	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Mar-02	2.4	140	41	1.3	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-02	2.0	170	62	1.5	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	6.8	2.7
Nov-01	<5.0	140	62	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	ND	NA	<5.0	NA	<5.0	<5.0	<10
Oct-01	2.8	190	68	1.4	–	<2.0	1.5	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Aug-01	5.9	180	72	1.4	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jun-01	2.6	150	64	1.4	–	<2.0	1.6	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	2.2	<2.0
Oct-00	<10	150	64	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-00 Dup	<10	140	62	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	2.6	130	77	<2.0	–	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Apr-99	<10	110	72	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-98	3.0	110	120	<2.0	–	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Apr-98	<5.0	170	110	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	<5.0	NA	NA	NA	NA
Oct-97	<10	210	170	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	<10	NA	NA	NA	NA
Apr-97	3.8	200	160	12	–	<1.0	2.9	<1.0	1.3	ND	ND	ND	2.7	ND	2.2	ND	NA	NA	NA	NA
Oct-96	2.4	160	160	3.7	–	<0.5	2.3	0.8	1.1	ND	ND	ND	1.5	ND	2.2	ND	NA	NA	NA	NA
Apr-96	4.0	230	–	–	180	<2.5	3	<2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	ND	NA	NA	NA	NA
Oct-95	4.4	260	–	–	222.5	<4.0	4.9	2.1	<2.0	ND	ND	ND	4	ND	<2.0	ND	NA	NA	NA	NA
Apr-95	<5.0	230	–	–	200	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-94	<25	300	–	–	330	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	4.9	280	–	–	221	<0.5	8	3	<0.5	ND	ND	ND	3	ND	1	ND	NA	NA	NA	NA
Oct-93	<5.0	250	–	–	200	<10	7	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-93	2.6	160	–	–	110	<5.0	4	<2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	ND	NA	NA	NA	NA
Oct-92	7.3	260	–	–	<50	2	4	<0.5	<0.5	ND	ND	ND	NA	ND	1	ND	NA	NA	NA	NA
Apr-92	8.0	400	–	–	140	<2.0	19	<2.0	<2.0	ND	ND	ND	21	ND	<2.0	ND	NA	NA	NA	NA
Jul-91	4.6	110	–	–	49	<0.5	2	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<2.0	160	–	–	63	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-91	1.0	100	–	–	58	<1.0	1	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-90	2.8	100	–	–	50	<0.5	4	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-90	<2.0	120	–	–	30	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Apr-90	3.0	99	–	–	28	<0.5	1	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Feb-90	2.6	76	–	–	20	<0.5	1	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	7	250	–	–	65	2	7	2	<1.0	–	–	–	3	ND	8	–	–	–	–	–
Aug-89	14	340	–	–	62	<1.0	10	4	1	–	–	–	5	ND	<1.0	–	–	–	–	–
Feb-89	<10	200	–	–	24	<10	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Nov-88	7	260	–	–	<2.0	<2.0	7	<2.0	<2.0	–	–	–	4	ND	9	–	–	–	–	–
Aug-88	9.0	370	–	–	180	<5.0	10	<5.0	<5.0	–	–	–	25	ND	<5.0	–	–	–	–	–
Jan-88	23	570	–	–	330	<5.0	18	<5.0	<5.0	–	–	–	27	ND	<5.0	–	–	–	–	–
Oct-87	9.8	690	–	–	350	<5.0	17	<5.0	<5.0	–	–	–	<5.0	ND	<5.0	–	–	–	–	–
Oct-87	<0.5	830	–	–	290	<1.0	<0.5	<0.5	<0.5	–	–	–	<1.0	ND	NA	–	–	–	–	–
Jul-87	<10	1,700	–	–	1,000	<10	25	<10	<10	–	–	–	12	ND	<10	–	–	–	–	–
Jan-87	23	1,200	–	–	540	<5.0	24	<5.0	<5.0	–	–	–	<5.0	ND	53	–	–	–	–	–
Jul-86	<10	1,400	–	–	650	<10	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Apr-86	20	1,100	–	–	<10	<10	<10	<10	<10	–	–	–	<10	ND	800	–	–	–	–	–
Oct-85	44	2,200	–	–	2,400	<25	77	<25	<25	–	–	–	320	ND	<25	–	–	–	–	–
Nov-84	37	2,200	–	–	1,300	NA	9.8	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Aug-84	130	2,800	–	–	2,100	ND	ND	ND	ND	–	–	–	ND	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-9A ZA																				
Oct-13	0.97	67	74	2.9		0.81	<0.50	0.44 J	0.47 J		<1.0	<0.50	<0.50	<1.0	3.1	<0.50	NA	NA	NA	NA
Oct-12	0.9	50	82	3.3		0.91	<0.5	0.54	<0.5	<0.5	<1.0	<0.5	<0.5	<1.0	3	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-11	1.6	73	100	2.9	–	2.2	<0.50	0.55	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	3.7	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.83	48	88	2.2	–	3.5	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	2.6	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.5	66	82	3.0	–	2.0	<0.50	0.58	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	4.0	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	1.3	50	98	2.7	–	1.2	<1	<1	<1	<1	<2	<1	<1	<2	3.1	<1	<1	<1	<1	<2
Oct-07	<5.0	120	130	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	98	92	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	<5.0	130	120	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	100	100	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	60	130	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	47	190	8.1	–	6.8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	56	140	<5.0	–	21	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	56	170	<5.0	–	7.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	140	90	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	7.5	320	<5.0	–	8.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	120	92	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	110	74	<5.0	–	5.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-04	2.9	85	81	2.3	–	7.2	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Jan-04	<5.0	92	56	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Oct-03	<5.0	120	81	<5.0	–	24	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	1.8	120	87	1.4	–	<2.0	1.1	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	110	66	<5.0	–	8.1	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Jul-02	<2.5	120	95	<2.5	–	7.3	<2.5	<2.5	<2.5	ND	<5.0	<2.5	<2.5	ND	<2.5	<2.5	NA	NA	NA	NA
Apr-02	3.0	130	100	<2.5	–	9.0	<2.5	<2.5	<2.5	ND	<5.0	<2.5	<2.5	ND	3.0	<2.5	NA	NA	NA	NA
Jan-02	3.0	140	110	<2.5	–	11	<2.5	<2.5	<2.5	ND	<5.0	<2.5	<2.5	ND	3.9	<2.5	NA	NA	NA	NA
Oct-01	<5.0	110	87	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Aug-01	<5.0	120	110	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	<5.0	<5.0	<25	ND	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Oct-00	<10	140	110	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-00 Dup	<10	140	110	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	3.5	130	100	2.2	–	<2.0	2.4	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Apr-99	<10	140	140	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-98	3.4	130	150	2.1	–	<2.0	2.6	<2.0	<2.0	ND	ND	ND	<2.0	ND	6.0	<2.0	NA	NA	NA	NA
Apr-98	<5.0	150	170	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	<5.0	NA	NA	NA	NA
Oct-97	<10	210	290	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	<10	NA	NA	NA	NA
Apr-97	5.0	200	250	16	–	1.4	3.9	1.9	1.7	ND	ND	ND	3.3	ND	9.8	ND	NA	NA	NA	NA
Oct-96	4.2	190	270	3.5	–	<1.0	4.4	2.7	1.7	ND	ND	ND	2.8	ND	11	ND	NA	NA	NA	NA
Apr-96	6.2	240	–	–	293	<2.5	5.3	2.7	<2.5	ND	ND	ND	<2.5	ND	12	ND	NA	NA	NA	NA
Oct-95	5.7	210	–	–	252.9	<5.0	5.4	3.2	<2.5	ND	ND	ND	3.5	ND	14	ND	NA	NA	NA	NA
Apr-95	4.7	180	–	–	170	<6.0	3.8	<3.0	<3.0	ND	ND	ND	<3.0	ND	12	ND	NA	NA	NA	NA
Oct-94	<25	260	–	–	160	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	9.2	270	–	–	263	6.7	12	9.1	2.3	ND	ND	ND	<0.5	ND	22	ND	NA	NA	NA	NA
Oct-93	7.0	330	–	–	320	<10	8.0	<5.0	<5.0	ND	ND	ND	8.0	ND	17	ND	NA	NA	NA	NA
Apr-93	8.0	420	–	–	240	30	8.0	<5.0	<5.0	ND	ND	ND	5.0	ND	16	ND	NA	NA	NA	NA
Oct-92	13	470	–	–	233	8.7	9.3	5.8	3.2	ND	ND	ND	NA	ND	21	ND	NA	NA	NA	NA
Apr-92	16	740	–	–	380	<5.0	18	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jan-92	22	850	–	–	770	<5.0	24	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jul-91	26	720	–	–	580	<5.0	17	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-91	20	1,000	–	–	940	<10	<10	<10	<10	ND	ND	ND	<10	ND	22	ND	NA	NA	NA	NA
Jan-91	30	1,700	–	–	700	<10	10	10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Oct-90	20	1,400	–	–	930	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jul-90	45	1,100	–	–	880	64	8.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	11	ND	NA	NA	NA	NA
Apr-90	30	2,600	–	–	1,500	120	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Feb-90	<50	2,800	–	–	200	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Oct-89	69	820	–	–	770	200	14	3	<2.0	–	–	–	<2.0	ND	110	–	–	–	–	–
May-88	25	1,000	–	–	710	170	26	13	<5.0	–	–	–	24	ND	63	–	–	–	–	–
Jan-88	<25	1,700	–	–	1,400	230	<25	<25	<25	–	–	–	<25	ND	<25	–	–	–	–	–
Oct-87	44	770	–	–	430	220	22	<5.0	<5.0	–	–	–	55	ND	<5.0	–	–	–	–	–
Jul-87	<10	1,000	–	–	1,400	390	13	<10	<10	–	–	–	18	ND	36	–	–	–	–	–
Jul-86	21	1,100	–	–	1,200	540	<10	<10	<10	–	–	–	<10	ND	82	–	–	–	–	–
Apr-86	<10	1,100	–	–	1,600	780	<10	<10	<10	–	–	–	<10	ND	<10	–	–	–	–	–
Mar-86	<10	2,500	–	–	2,000	<10	<10	<10	<10	–	–	–	NA	ND	<10	–	–	–	–	–
Mar-86	<10	1,700	–	–	2,100	<10	<10	<10	<10	–	–	–	NA	ND	<10	–	–	–	–	–
Mar-86	120	1,100	–	–	2,500	710	<10	<10	<10	–	–	–	NA	ND	<10	–	–	–	–	–
Oct-85	320	5,600	–	–	<50	<50	60	<50	<50	–	–	–	1,200	ND	<50	–	–	–	–	–
Nov-84	31	1,800	–	–	4,200	NA	12	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Aug-84	280	2,000	–	–	7,900	3,500	ND	47	ND	–	–	–	ND	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-13A ZA																				
Oct-13	<0.50	1.2	79	8.2		38	<0.50	<0.50	0.59		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<0.50	3.1	31	4.1		16	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
May-13 Dup	<0.50	2.9	30	3.9		16	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	1.2	20	2.3		17	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	0.74	18	1.6		5.8	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.52	<0.50	<0.50	<0.50	0.56	<1.0
Oct-11	0.84	70	66	2.8	–	10.0	<0.50	0.54	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.52	72	51	2.2	–	6.9	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	57	31	1.4	–	4.2	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	26	40	2.40	–	8.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.52	1.2	<0.50	<0.50	<0.50	<1.0
Feb-09	<0.50	30	32	2.1	–	8.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	2.1	2.9	NA	NA	NA	NA
Oct-08	<25	38	<25	<25	–	<25	<25	<25	<25	<25	<50	<25	<25	<50	<25	<25	<25	<25	3100	<50
Oct-07	<5.0	48	260	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	180	64	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	200	75	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	6.2	300	120	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	210	99	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	200	120	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	180	140	6.2	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	210	98	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Nov-05	<5.0	200	98	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
T-14A ZA																				
Oct-13	<0.50	2.0	53	6.3		35	<0.50	0.29 J	0.78		<1.0	<0.50	<0.50	<1.0	2.1	0.19 J	NA	NA	NA	NA
May-13	<0.50	4.2	33	4.4		25	<0.50	<0.50	0.63		<1.0	<0.50	<0.50	<1.0	2.1	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	0.96	27	3.8		26	<0.50	<0.50	0.71	<0.50	<1.0	<0.50	<0.50	<1.0	2	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	3.0	42	3.1		16	<0.50	<0.50	0.51	<0.50	<1.0	<0.50	<0.50	<1.0	2.3	0.86	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	28	38	2.8	–	6.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	36	42	2.4	–	9.0	<0.50	<0.50	0.60	<0.50	<1.0	<0.50	<0.50	<1.0	1.9	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	28	37	2.2	–	9.7	<0.50	<0.50	0.51	<0.50	<1.0	<0.50	<0.50	<1.0	1.7	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	9.0	16	1.9	–	7.4	<0.50	<0.50	0.53	<0.50	<1.0	<0.50	<0.50	<1.0	1.8	1.9	<0.50	<0.50	0.54	<1.0
Feb-09	<0.50	6.2	15	2.0	–	7.8	<0.50	<0.50	0.59	<0.50	<1.0	<0.50	<0.50	<1.0	2.4	2.2	NA	NA	NA	NA
Oct-08	<20	<20	45	<20	–	<20	<20	<20	<20	<20	<40	<20	<20	<40	<20	<20	<20	<20	1300	<40
Oct-07	<5.0	54	200	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	120	51	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	160	58	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	200	57	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	6.8	140	92	8	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	150	63	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Nov-05	<5.0	130	59	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
T-15A ZA																				
Oct-13	2.0	100	62	2.9		0.46 J	0.35 J	0.70	0.49 J		<1.0	<0.50	0.36 J	<1.0	1.2	<0.50	NA	NA	NA	NA
May-13	1.8	100	50	2.7		<0.50	<0.50	0.61	<0.50		<1.0	<0.50	<0.50	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<2.5	130	62	3.8		<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Apr-12	2.2	130	58	3.2		<0.50	<0.50	0.64	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.1	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	3	130	61	3.8	–	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-10	1.3	110	48	2.2	–	0.50	<0.50	0.54	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.91	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	92	37	2.4	–	0.61	<0.50	0.64	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.90	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	1.6	140	53	2.2	–	1.5	<1	<1	<1	<1	<2	<1	<1	<2	<1	<1	<1	<1	<1	<2
Oct-07	<5.0	160	75	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	130	63	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	140	66	<5.0	–	8.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	5.2	170	87	<5.0	–	7.4	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	140	66	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	130	91	<5.0	–	8.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	51	140	11	–	29	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	<5.0	110	<5.0	–	83	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Nov-05	<5.0	8.2	160	<5.0	–	37	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
T-16A ZA																				
Oct-13	1.2	94	69	3.6		3.2	0.20 J	0.58	0.58		<1.0	<0.50	0.23 J	<1.0	1.4	<0.50	NA	NA	NA	NA
Oct-12	1	68	63	3.2		2.1	<0.50	0.57	0.5	<0.50	<1.0	<0.50	<0.50	<1.0	1.1	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	1.6	91	67	2.9	–	0.53	<0.50	0.7	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.5	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.81	72	64	2.2	–	0.76	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.89	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.59	40	44	2.2	–	0.84	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.61	<0.5	0.6	<0.50	0.56 B	<1.0
Oct-08	0.9	63	77	2.3	–	2.6	<0.5	0.53	<0.5	<0.5	<1	<0.5	<0.5	<1	1.4	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<5.0	79	160	<5.0	–	8.8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.1	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	120	71	<5.0	–	7.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	80	100	<5.0	–	8.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	17	160	9.5	–	26	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	20	120	<5.0	–	45	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Nov-05	<5.0	24	160	<5.0	–	32	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
T-17A ZA																				
Oct-13	1.3	86	21	0.42 J		<0.50	<0.50	0.25 J	0.35 J		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	0.80	71	14	<0.50		<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	1.3	92	4.5	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.62	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	1.3	96	5.8	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Nov-11	1.7	110	6.6	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-19A ZA																				
Oct-13	<0.50	<0.50	2.6	0.87		2.3	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	0.92	2.6	NA	NA	NA	NA
May-13	<0.50	<0.50	3.4	0.84		4.3	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	0.98	2.0	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	<0.50	9.1	1.3		5.6	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.8	3.8	<0.50	<0.50	0.8	<1.0
Apr-12	<0.50	<0.50	2.1	1.2		0.92	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.60	4.3	<0.50	<0.50	0.77	<1.0
Oct-11	<0.50	4.1	16	1.60	–	10	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.80	1.3	<0.50	<0.50	<0.50	1
Oct-10	<0.50	0.89	7.7	0.72	–	10	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.87	1.2	<0.50	<0.50	<0.50	<1.0
Apr-10 Dup	<0.50	0.89	1.6	<0.50	–	0.81	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.56	1.1	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	0.98	1.6	<0.50	–	0.88	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.65	1.3	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	<0.50	4.6	0.84	–	2.8	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.3	3.9	<0.50	<0.50	<0.50	<1.0
Feb-09 Dup	<0.50	<0.50	2.6	0.78	–	1.4	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.2	6.3	NA	NA	NA	NA
Feb-09	<0.50	<0.50	1.9	0.65	–	1.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.0	6.0	NA	NA	NA	NA
Oct-08	<50	<50	<50	<50	–	<50	<50	<50	<50	<50	<100	<50	<50	<100	<50	<50	<50	<50	3500	<100
Oct-07	<5.0	53	140	<5.0	–	8	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Sep-07	<5.0	140	55	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
T-23A ZA																				
Oct-13	<0.50	19	54	12		7.6	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<0.50	48	57	4.4		7.6	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	36	73	2.4		6.6	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	2.0	58	2.0		3.2	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.1	0.79	<0.50	<0.50	3.5	<1.0
Apr-12 Dup	<0.50	2.0	61	1.9		3.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.0	0.76	<0.50	<0.50	3.3	<1.0
Oct-11	0.62	62	39	4.2	–	2.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.60	51	37	4.3	–	3.5	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.56	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	<0.50	41	19	2.8	–	2.0	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.54	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	11	14	2.0	–	3.1	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	0.55	ND	<0.50	<0.50	<0.50	<1.0
Feb-09	<0.50	17	29	2.1	–	9.7	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.5	1.8	NA	NA	NA	NA
Oct-08	<10	16	12	<10	–	<10	<10	<10	<10	<10	<20	<10	<10	<20	<10	<10	<10	<10	890	<20
Oct-07	<5.0	130	120	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Sep-07	7.7	210	21	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
T-25A ZA																				
Oct-13	<0.50	0.57	27	4.7		42	<0.50	<0.50	0.75		<1.0	<0.50	<0.50	<1.0	2.5	<0.50	NA	NA	NA	NA
May-13	<0.50	1.4	22	3.4		22	<0.50	<0.50	0.65		<1.0	<0.50	<0.50	<1.0	2.2	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	0.86	10	3.5		12	<0.50	<0.50	0.71	<0.50	<1.0	<0.50	<0.50	<1.0	2.3	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	1.1	19	2.7		7.3	<0.50	<0.50	0.52	<0.50	<1.0	<0.50	<0.50	<1.0	3.1	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	1.5	63	50	3.0	–	2.1	<0.50	0.51	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.8	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.8	47	50	2.5	–	7.3	<0.50	<0.50	0.55	<0.50	<1.0	<0.50	<0.50	<1.0	2.1	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-10	1.0	39	34	2.3	–	6.8	<0.50	<0.50	<0.50	<0.50	<1.0	0.5	<0.50	<1.0	2.5	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	ND	26	17	2.0	–	3.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.3	<0.50	<0.50	<0.50	<0.50	<1.0
Feb-09	1.3	41	42	2.3	–	9.7	<0.50	<0.50	0.55	<0.50	<1.0	<0.50	<0.50	<1.0	3.3	<0.50	NA	NA	NA	NA
Oct-08	1.0	42	38	2.2	–	7.6	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<1	4.2	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<5.0	66	160	<5.0	–	9.6	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Sep-07	5.5	160	52	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
36S ZA																				
Oct-13	2.3	74	8.1	<0.5	–	<0.5	0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-12	2.0 J	1	10	<0.5	–	<0.5	0.6	0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	1.8 J	73	8	<0.5	–	<0.5	0.7	0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-10+	2.0	75	11	0.6	–	<0.5	0.7	0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	2.2	80	9.3	<0.5	–	<0.5	0.6	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	2.4	98	13	0.6	–	<0.5	0.7	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-07+	1.5	70	15	0.9	–	<0.7	<0.7	0.8	<0.7	ND	ND	ND	<0.7	ND	<0.7	<0.7	NA	NA	NA	NA
Oct-06+	2.6	98	20	0.9	–	<0.5	0.9	0.6	<0.5	ND	ND	ND	0.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-05+	2.1	91	22	0.8	–	<1.0	1.1	0.6	<0.5	ND	ND	ND	0.6	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-04+	1.8	91	34	1.1	–	<0.5	1.1	0.6	0.5	ND	ND	ND	1.9	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-03+	1.7	100	53	1.6	–	1.1	1.2	0.7	0.7	ND	ND	ND	<1.0	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-02+	1.8	140	70	1.9	–	<0.5	1.7	0.8	0.7	ND	ND	ND	1.2	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-01+	2.1	140	110	2.8	–	<0.5	2.5	1.1	1.0	ND	ND	ND	1.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-00+	1.3	83	100	5.6	–	<1.0	1.6	1.2	0.9	ND	ND	ND	1.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-99	1.2	50	83	4.4	–	<1.0	1.7	<1.0	<1.0	ND	ND	ND	1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-97+	<0.5	20	16	5.2	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-96	0.7	25	6.1	3.0	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-95	<1.0	21	–	–	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-94	<5.0	19	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	<5.0	NA	NA	NA	NA
Oct-93	<2.5	66	–	–	<2.5	<5.0	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	<2.5	NA	NA	NA	NA
Oct-92	2.1	35	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-89	4	130	–	–	13	<0.5	5.7	0.8	<0.5	–	–	–	2	ND	<0.5	–	–	–	–	–
May-88	3.9	140	–	–	26	<1.0	20	3.3	1.6	–	–	–	13	ND	1.8	–	–	–	–	–
Jan-88	5.8	170	–	–	15	<1.0	23	3.8	1.3	–	–	–	14	ND	<1.0	–	–	–	–	–
Oct-87	3.5	160	–	–	10	<1.0	20	2.5	1.7	–	–	–	14	ND	<1.0	–	–	–	–	–
Jun-87	<1.0	170	–	–	11	<1.0	15	1.6	<1.0	–	–	–	8.2	ND	<1.0	–	–	–	–	–
Apr-87	4	200	–	–	12	<2.5	34	6	<2.5	–	–	–	19	ND	<2.5	–	–	–	–	–
Jan-87	<10	140	–	–	<10	<10	34	<10	<10	–	–	–	28	ND	<10	–	–	–	–	–
Sep-86	5.3	200	–	–	5.75	<1.0	27.5	2.9	2.1	–	–	–	16.5	ND	7.95	–	–	–	–	–
Jul-86	3.3	59	–	–	7.7	<0.5	32	3.2	1.6	–	–	–	15	ND	<0.5	–	–	–	–	–
Apr-86	3.4	130	–	–	10	<0.5	36	3.5	1.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-86	11	190	–	–	25	<2.0	42	3.4	<2.0	–	–	–	<2.0	ND	<2.0	–	–	–	–	–
Oct-85	<5.0	250	–	–	23	<5.0	65	<5.0	<5.0	–	–	–	90	ND	ND	–	–	–	–	–
Nov-84	4.7	150	–	–	8.8	NA	19	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Aug-84	8	230	–	–	12	ND	23	2	ND	–	–	–	40	ND	ND	–	–	–	–	–
Mar-84	NA	360	–	–	NA	NA	NA	NA	NA	–	–	–	NA	ND	NA	–	–	–	–	–
Aug-83	19	470	–	–	<1.0	ND	36	16	<1.0	–	–	–	<1.0	ND	ND	–	–	–	–	–
May-83	ND	82	–	–	ND	ND	ND	ND	ND	–	–	–	ND	ND	ND	–	–	–	–	–
Apr-83	13	400	–	–	23	ND	16	ND	ND	–	–	–	12	ND	ND	–	–	–	–	–
Aug-82	10	590	–	–	55	ND	19	<2.0	<2.0	–	–	–	2	ND	ND	–	–	–	–	–
Jun-82	18	710	–	–	<10	ND	42	<10	<10	–	–	–	19	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
36D ZA																				
Oct-13	1.3	38	28	0.8	–	<0.5	<0.5	0.6	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	1.6 J	47	29	1.0	–	<0.5	<0.5	0.6	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	0.7 J	29	34	1.2	–	<0.5	<0.5	0.7	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-10+	1.4	47	34	1.2	–	<0.5	<0.5	0.7	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	<0.5	19	40	1.1	–	<0.5	<0.5	0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	0.7	27	5.8	<0.5	–	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-07+	<0.5	17	6.1	<0.5	–	<0.5	<0.5	<0.5	<0.5	0.8	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-06+	2.1	92	42	1.6	–	0.6	0.9	1.0	0.7	ND	ND	ND	1.2	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-05+	<0.5	4.6	1.5	<0.5	–	0.5	<0.5	<0.5	<0.5	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-04+	1.6	85	46	1.7	–	2.4	1.1	0.8	0.6	ND	ND	ND	1.7	ND	0.8	ND	NA	NA	NA	NA
Apr-04	<1.0	45	27	2.5	–	12	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<2.0
Oct-03+	1.7	110	57	1.5	–	0.9	1.3	0.9	0.8	ND	ND	ND	1.1	ND	0.8	ND	NA	NA	NA	NA
Apr-03	<1.0	69	40	<1.0	–	8.2	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02+	1.8	150	90	2.3	–	<0.5	1.7	1.2	1.0	ND	ND	ND	1.9	ND	1.1	ND	NA	NA	NA	NA
Oct-01+	0.9	67	48	1.1	–	<0.5	1.2	0.6	<0.5	ND	ND	ND	1.4	<1.0	<0.5	ND	NA	NA	NA	NA
Oct-00+	1.6	110	97	2.2	–	<1.0	1.9	1.0	0.8	ND	ND	ND	1.6	ND	0.7	ND	NA	NA	NA	NA
Oct-00 Dup+	1.6	100	91	2.5	–	<1.0	1.8	1.1	0.7	ND	ND	ND	1.5	ND	0.7	ND	NA	NA	NA	NA
Oct-99	<2.0	85	120	2.7	–	<2.0	2.6	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Apr-98+	<5.0	81	130	<5.0	–	<5.0	NA	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	ND	NA	NA	NA	NA
Oct-97+	<0.5	52	91	1.2	–	<0.5	2.1	<0.5	0.9	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-96	1.2	48	34	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	0.6	ND	NA	NA	NA	NA
Oct-95	<1.0	25	–	–	2.1	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	66	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	94	–	–	<5.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	2.1	92	–	–	6.4	<1.0	1.0	<0.5	<0.5	ND	ND	ND	NA	ND	1.6	ND	NA	NA	NA	NA
Apr-92	4.0	180	–	–	25	<1.0	3.0	1.0	2.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Jan-92	1.6	170	–	–	48	<1.0	2.9	<1.0	<1.0	ND	ND	ND	<1.0	ND	1.6	ND	NA	NA	NA	NA
Oct-91	2.5	120	–	–	41	<0.5	2.2	1.8	1.2	ND	ND	ND	0.6	ND	2.3	ND	NA	NA	NA	NA
Jul-91	2.0	130	–	–	32	<1.0	1.0	<1.0	1.0	ND	ND	ND	1.0	ND	3.0	ND	NA	NA	NA	NA
Apr-91	<2.0	180	–	–	48	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-91	2.0	120	–	–	39	<1.0	1.0	1.0	1.0	ND	ND	ND	<1.0	ND	3.0	ND	NA	NA	NA	NA
Oct-90	2.6	120	–	–	37	<0.5	2.7	<0.5	<0.5	ND	ND	ND	<0.5	ND	2.1	ND	NA	NA	NA	NA
Jul-90	2.7	110	–	–	31	<0.5	2.7	1.3	0.9	ND	ND	ND	1.3	ND	5.0	ND	NA	NA	NA	NA
Apr-90	3.0	170	–	–	18	<1.0	2.0	1.0	<1.0	ND	ND	ND	<1.0	ND	4.0	ND	NA	NA	NA	NA
Jan-90	3.0	170	–	–	26	<1.0	4.0	2.0	<1.0	ND	ND	ND	1.0	ND	4.0	ND	NA	NA	NA	NA
Oct-89	4.3	120	–	–	23	<0.5	9.6	2.7	0.8	–	ND	–	7.4	ND	<0.5	–	–	–	–	–
Aug-89	4	200	–	–	27	<2.0	10	6	<2.0	–	ND	–	7	ND	8	–	–	–	–	–
May-89	<2.5	<2.5	–	–	<2.5	<2.5	<2.5	<2.5	<2.5	–	ND	–	<2.5	ND	<2.5	–	–	–	–	–
Feb-89	<5.0	180	–	–	36	<5.0	8	<5.0	<5.0	–	ND	–	12	ND	<5.0	–	–	–	–	–
Feb-89	<2.0	61	–	–	21	<2.0	4	<2.0	<2.0	–	ND	–	<2.0	ND	5	–	–	–	–	–
Feb-89	<2.0	51	–	–	17	<2.0	3	<2.0	<2.0	–	ND	–	<2.0	ND	3	–	–	–	–	–
Nov-88	3.2	180	–	–	37	<1.0	14	3.5	1.6	–	ND	–	16	ND	13	–	–	–	–	–
Aug-88	5	150	–	–	53	<1.0	30	5.6	2.8	–	ND	–	34	ND	11	–	–	–	–	–
May-88	4.2	170	–	–	47	<1.0	31	5.5	2.6	–	ND	–	20	ND	11	–	–	–	–	–
Jan-88	4.1	100	–	–	20	<1.0	34	3.5	1.9	–	ND	–	30	ND	9.4	–	–	–	–	–
Oct-87	3.3	68	–	–	16	<0.5	29	3.4	2.3	–	ND	–	22	ND	14	–	–	–	–	–
Jun-87	5.9	170	–	–	14	<1.0	22	2.9	1.9	–	ND	–	21	ND	24	–	–	–	–	–
Apr-87	3	160	–	–	13	<1.0	25	4.7	1.7	–	ND	–	16	ND	18	–	–	–	–	–
Jan-87	<10	170	–	–	<10	<10	28	<10	<10	–	ND	–	54	ND	<10	–	–	–	–	–
Sep-86	20	170	–	–	8.6	<1.0	40	5.1	3.5	–	ND	–	17	ND	18	–	–	–	–	–
Jul-86	3.6	60	–	–	10	<0.5	43	4.8	2.3	–	ND	–	25	ND	<0.5	–	–	–	–	–
Apr-86	3	130	–	–	12	<0.5	39	4.3	1.9	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Oct-85	16	220	–	–	17	<5.0	77	<5.0	<5.0	–	ND	–	120	ND	<5.0	–	–	–	–	–
Nov-84	4.2	160	–	–	10	NA	26	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	6	180	–	–	12	ND	19	2	ND	–	ND	–	30	ND	ND	–	–	–	–	–
Mar-84	NA	260	–	–	NA	NA	NA	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-83	15	600	–	–	18	NA	36	13	16	–	ND	–	<1.0	ND	NA	–	–	–	–	–
Jul-83	8	650	–	–	38	ND	18	2	2	–	ND	–	ND	ND	ND	–	–	–	–	–
May-83	14	9,200	–	–	ND	ND	18	ND	ND	–	ND	–	ND	ND	ND	–	–	–	–	–
Aug-82	6.8	500	–	–	52	ND	19	<2.0	<2.0	–	ND	–	<2.0	ND	ND	–	–	–	–	–

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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
37S ZA																				
Oct-13	1.0	95	1.6	<0.5	–	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-12	0.8 J	63	2.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-11	0.8 J	63	2.3	<0.5	–	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<5.0	NA	NA	NA	NA	NA
Oct-10+	0.9	60	3.7	<0.5	–	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	1.4	91	2.2	<0.5	–	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	1.1	81	3.6	<0.5	–	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-07+	1.0	81	2.4	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.8	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-05+	1.0	91	5.2	<0.7	–	<0.7	<0.7	<0.7	<0.7	ND	ND	ND	<1.4	ND	<0.7	ND	NA	NA	NA	NA
Oct-04+	1.2	11	3.3	<0.7	–	<0.7	<0.7	<0.7	<0.7	ND	ND	ND	1.9	ND	<0.7	ND	NA	NA	NA	NA
Oct-03+	1.3	160	2.9	<0.6	–	<0.6	<0.6	<0.6	<0.6	ND	ND	ND	<1.3	ND	<0.6	ND	NA	NA	NA	NA
Oct-02+	0.9	170	3.7	<0.7	–	<0.7	<0.7	<0.7	<0.7	ND	ND	ND	<1.4	ND	<0.7	ND	NA	NA	NA	NA
Oct-01	<5.0	140	<5.0	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	ND	NA	NA	NA	NA
Oct-00+	1.2	200	9.7	<0.5	–	1.8	<0.5	<0.5	<0.5	ND	ND	ND	2.1	ND	<0.5	ND	NA	NA	NA	NA
Oct-99	<5.0	180	<5.0	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-97+	<2.5	260	12	<2.5	–	<2.5	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	ND	NA	NA	NA	NA
Oct-96	1.2	270	6.3	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	2.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-95	<1.0	380	–	–	7.1	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	3.8	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	330	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	400	–	–	8.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jun-88	<1.0	150	–	–	170	<1.0	5.8	<1.0	<1.0	–	–	ND	<1.0	ND	<1.0	–	–	–	–	–
Jan-88	<10	1,100	–	–	34	<10	<10	<10	<10	–	–	ND	95	ND	<10	–	–	–	–	–
Jan-87	<5.0	600	–	–	25	<5.0	<5.0	<5.0	<5.0	–	–	ND	52	ND	<5.0	–	–	–	–	–
Nov-84	6.6	1,300	–	–	32	NA	3.2	NA	NA	–	–	ND	NA	ND	NA	–	–	–	–	–
Aug-84	8	760	–	–	52	ND	4	ND	ND	–	–	ND	ND	ND	ND	–	–	–	–	–
Mar-84	NA	1,400	–	–	NA	NA	NA	NA	NA	–	–	ND	NA	ND	NA	–	–	–	–	–
Sep-83	37	4,200	–	–	290	NA	4	ND	ND	–	–	ND	190	ND	NA	–	–	–	–	–
Sep-83	47	3,500	–	–	240	NA	5	ND	ND	–	–	ND	14	ND	NA	–	–	–	–	–
Aug-83	34	41,000	–	–	4,600	5	13	2.0	1.6	–	–	ND	<1.0	ND	ND	–	–	–	–	–
May-83	ND	270	–	–	17	ND	ND	ND	ND	–	–	ND	ND	ND	ND	–	–	–	–	–
Apr-83	10	330	–	–	77	ND	ND	ND	ND	–	–	ND	120	ND	ND	–	–	–	–	–
Aug-82	9	1,400	–	–	27	ND	13	<2.0	<2.0	–	–	ND	78	ND	ND	–	–	–	–	–
Jun-82	<10	2,600	–	–	<10	ND	<10	<10	<10	–	–	ND	370	ND	ND	–	–	–	–	–
38S ZA																				
Oct-13	0.93	96	150	1.7		7.4	<0.50	0.70	0.36 J		<1.0	<0.50	1.4	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<2.5	60	180	<2.5		7.2	<2.5	<2.5	<2.5		<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-12	0.84	91	200	2.5		11	<0.50	0.84	<0.50	<0.50	<1.0	<0.50	1.8	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	32	120	1.4		11	<0.50	0.60	<0.50	<0.50	<1.0	<0.50	0.80	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	<2.5	130	140	<2.5	–	6.7	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-10	1.3	150	130	1.8	–	5.7	<0.50	0.50	<0.50	<0.50	<1.0	<0.50	1.5	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.5	150	120	2.8	–	6.3	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	1.1	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	0.65	50	82	2.4	–	30	<0.5	<0.5	<0.5	<0.5	<1	<0.5	1.0	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	1.3	85	50	0.82	–	16	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	0.61	<1.0	<0.5	<1.0	<0.5	<0.5	<0.5	<1.0
Oct-06	1.5	130	33	<1.0	–	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-05	2.0	140	68	1.5	–	14	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-04	<5.0	190	190	<5.0	–	6.9	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-03	<1.0	51	110	1.2	–	21	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<1.0	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-02	2.6	240	200	6.3	–	8.6	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	3.5	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-01	<5.0	170	120	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<20	240	240	<20	–	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	NA	NA	NA	NA
Oct-99	<5.0	270	240	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-97+	<5.0	160	520	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-96	<1.7	440	540	4.0	–	<1.7	<1.7	2.7	<1.7	ND	ND	ND	2.9	ND	<1.7	ND	NA	NA	NA	NA
Oct-95	<10	1,100	–	–	180	<20	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Oct-94	<5.0	910	–	–	190	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
May-88	<25	3,400	–	–	240	<25	<25	<25	<25	–	ND	–	95	ND	<25	–	–	–	–	–
Jan-88	<50	2,900	–	–	240	<50	<50	<50	<50	–	ND	–	<50	ND	<50	–	–	–	–	–
Oct-87	<25	2,400	–	–	270	<25	<25	<25	<25	–	ND	–	100	ND	<25	–	–	–	–	–
Jun-87	260	2,200	–	–	910	<10	13	<10	<10	–	ND	–	83	ND	<10	–	–	–	–	–
Apr-87	26	2,700	–	–	420	<10	74	<10	<10	–	ND	–	91	ND	<10	–	–	–	–	–
Jan-87	<10	2,500	–	–	220	<10	<10	<10	<10	–	ND	–	180	ND	<10	–	–	–	–	–
Sep-86	<25	4,600	–	–	120	<25	<25	<25	<25	–	ND	–	150	ND	<25	–	–	–	–	–
Jul-86	<5.0	2,800	–	–	200	<5.0	<5.0	<5.0	<5.0	–	ND	–	250	ND	<5.0	–	–	–	–	–
Oct-85	45	3,700	–	–	410	<25	33	<25	<25	–	ND	–	590	ND	<25	–	–	–	–	–
Nov-84	28	3,200	–	–	510	NA	20	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	28	1,400	–	–	1100	ND	5	3	ND	–	ND	–	ND	ND	ND	–	–	–	–	–
Mar-84	NA	3,500	–	–	NA	NA	NA	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Sep-83	59	2,700	–	–	970	ND	<2.0	<4.0	1	–	ND	–	140	ND	ND	–	–	–	–	–
Sep-83	72	6,300	–	–	1700	ND	<2.0	4	3	–	ND	–	120	ND	ND	–	–	–	–	–
May-83	23	2,000	–	–	350	ND	ND	ND	ND	–	ND	–	ND	ND	ND	–	–	–	–	–
Aug-82	17	2,200	–	–	300	ND	<2.0	<2.0	<2.0	–	ND	–	35	ND	ND	–	–	–	–	–
Aug-82	76	40,000	–	–	3100	3	6.4	2	2.6	–	ND	–	<1.0	ND	ND	–	–	–	–	–
Jun-82	<10	1,250	–	–	<10	ND	<10	<10	<10	–	ND	–	103	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
EDUCTOR ZA																				
Oct-13	<500	<500	29,000	<500	–	1,800	<500	<500	<500	–	<1000	<500	<500	<1000	<500	<500	NA	NA	NA	NA
May-13	<1000	1,000	37,000	<1,000	–	2,900	<1000	<1000	<1000	–	<2000	<1000	<1000	<2000	<1000	<1000	<1000	<1000	<1000	<2000
Oct-12	<1,000	1,200	83,000	<1,000	–	5,200	<1,000	<1,000	<1,000	<1,000	<2,000	<1,000	<1,000	<2,000	2,400	<1,000	<1,000	<1,000	<1,000	<2,000
Apr-12	<50	620	93,000	74	–	6,400	<50	110	<50	<50	<100	<50	<50	<100	880	190	<50	120	<50	430
Oct-11	<50	54	8,000	<50	–	1,100	<50	<50	<50	<50	<100	<50	<50	<100	<50	<50	<50	<50	<50	<100
May-11	<500	3,600	100,000	<500	–	11,000	<500	<500	<500	<500	<500	<500	<500	<500	1,500	<500	<500	<500	<500	<500
Mar-11	<500	1,100	94,000	<500	–	5,900	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500	<500
Nov-10	<500	670	29,000	<500	–	2,700	<500	<500	<500	<500	<1,000	<500	<500	<1,000	1,300	660	–	–	–	–
Oct-10	<200	2,100	78,000	<200	–	67,000	<200	<200	<200	<200	<400	<200	<200	<400	1,900	6900	<200	<200	<200	<400
Oct-09	<200	<200	34,000	<200	–	9,300	<200	<200	<200	<200	<400	<200	<200	<400	1,600	840	<200	230	<200	<400
Oct-08	<2000	100,000	23,000	<2000	–	28,000	<2000	<2000	<2000	<2000	<4000	<2000	<2000	<4000	3100	5200	<2000	<2000	<2000	<4000
Oct-07	55	3,500	8,300	120	–	15,000	<5.0	30	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	4,200	<5.0	<500	13	1,300
Apr-07	<5.0	5.1	29,000	200	–	28,000	<5.0	57	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	14	<5.0	<200	9.2	960
Oct-06	<100	<100	25,000	<100	–	9,800	<100	<100	<100	NA	<100	<100	NA	<100	NA	2,200	<100	290	<100	880
Apr-06	<5.0	<5.0	20,000	<500	–	8,500	<5.0	37	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	1,500	<5.0	160	5.7	200
Jan-06	150	4,800	2,300	30	–	12,000	<5.0	12	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	3,000	<5.0	<500	9.9	<1500
Oct-05	<250	<250	3,600	<250	–	3,900	<250	<250	<250	NA	<250	<250	NA	<250	NA	1,000	<250	<250	<250	<750
Sep-05	<250	<250	27,000	<250	–	18,000	<250	<250	<250	<250	<250	<500	<250	<250	420	2,900	NA	NA	NA	NA
Jul-05	82	2,200	27,000	150	–	15,000	<5.0	130	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	3,600	<5.0	<500	11	1,200
Jul-05-Dup	92	2,100	27,000	180	–	14,000	<5.0	140	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	3,500	<5.0	<500	11	1,100
Apr-05	23	490	19,000	160	–	33,000	<5.0	57	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	2,900	<5.0	340	8.7	1,180
Apr-05 Dup	23	430	19,000	160	–	35,000	<5.0	66	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	2,800	<5.0	330	9.6	1,180
Jan-05	<0.5	<0.5	4,700	180	–	4,400	<5.0	9.3	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	1,900	<5.0	200	<5.0	650
Oct-04	<5.0	<5.0	<5.0	9.3	–	28	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	1,200	<5.0	120	<5.0	380
Apr-04	<1.0	<1.0	<1.0	7	–	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0
Jan-04	<10	<10	<10	<10	–	<10	<10	<10	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	<20
Oct-03	14	75	34	9.6	–	560	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	340	<5.0	32	<5.0	113
Oct-03 Dup	20	110	53	12	–	550	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	300	<5.0	39	<5.0	144
Jul-03	870	15,000	3,800	210	–	24,000	<1.0	120	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	97	NA	460	5.9	1,020
Jul-03 Dup	880	32,000	4,000	200	–	27,000	<1.0	120	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	98	NA	490	7.2	1,030
Apr-03	<1.0	11	570	12	–	4,500	<1.0	1.2	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	130	NA	35	1.9	63
Apr-03 Dup	<1.0	7.6	790	12	–	5,500	1.4	1.8	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	110	NA	46	1.8	56
Jan-03	21	670	9,400	34	–	5,700	7.2	27	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	60	NA	NA	NA	NA
Jan-03 Dup	32	1,200	9,600	28	–	5,600	2.9	24	1.3	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	62	NA	NA	NA	NA
Oct-02	120	17,000	20,000	38	–	21,000	<1.0	32	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	40	2.9	62	4.0	249
Jul-02	62	2,600	6,400	30	–	2,400	<1.0	19	<1.0	NA	<2.0	<2.0	NA	ND	NA	13	NA	<50	<50	<100
Mar-02	170	3,800	8,000	<50	–	540	<50	NA	<50	NA	<50	<50	NA	ND	NA	<50	NA	<50	<50	<100
Jan-02	1,400	80,000	17,000	110	–	1,200	<50	<50	<50	NA	<50	<50	NA	ND	NA	400	NA	<50	<50	1,170
Nov-01	150	5,000	5,600	48	–	750	<5.0	8.0	<5.0	NA	<5.0	<5.0	NA	ND	NA	11	<5.0	42	<5.0	169
Oct-01	1,200	53,000	18,000	<1,000	–	<2,000	<1,000	<1,000	<1,000	NA	<2,000	<2,000	NA	<1,000	NA	<1,000	NA	<1,000	<1,000	<2,000
Aug-01	140	5,100	7,700	44	–	710	1.2	43	<1.0	NA	<2.0	<2.0	NA	ND	NA	39	NA	36	<1.0	100
Jun-01	7.9	230	15,000	140	–	6,100	15	66	3.3	NA	5.6	<2.0	NA	ND	NA	72	NA	63	3.8	97
Mar-01	19	310	14,000	110	–	1,500	12	2.0	35	NA	<2.0	<2.0	NA	ND	NA	20	NA	13	<1.0	179
Oct-00	<400	8,400	680	<400	–	<400	<400	<400	<400	<400	ND	ND	<400	ND	<400	<400	NA	NA	NA	NA
Oct-99	470	13,000	650	<250	–	<250	<250	<250	<250	ND	ND	ND	<250	ND	<250	<250	NA	NA	NA	NA
Apr-99	<1,000	11,000	<1,000	<1,000	–	<1,000	<1,000	<1,000	<1,000	ND	ND	ND	<1,000	ND	<1,000	<1,000	NA	NA	NA	NA
Oct-98	<500	17,000	740	<500	–	<500	<500	<500	<500	ND	ND	ND	<500	ND	<500	<500	NA	NA	NA	NA
Apr-98	520	20,000	810	<100	–	<100	<100	<100	<100	ND	ND	ND	<400	ND	<100	<100	NA	NA	NA	NA
Oct-97	<500	16,000	<500	<500	–	<500	<500	<500	<500	ND	ND	ND	<500	ND	<1000	<500	NA	NA	NA	NA
Apr-97	120	6,700	450	<31	–	<31	<31	<31	<31	ND	ND	ND	<31	ND	<31	ND	NA	NA	NA	NA
Oct-96	140	9,800	1,100	<50	–	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Apr-96	440	23,000	–	–	1,106	100	<5.0	6.7	<5.0	ND	ND	ND	<5.0	ND	370	ND	NA	NA	NA	NA
Oct-95	670	46,000	–	–	1,100	<500	<250	<250	<250	ND	ND	ND	<250	ND	380	ND	NA	NA	NA	NA
Apr-95	<200	13,000	–	–	690	<400	<200	200	200	ND	ND	ND	<200	ND	<200	ND	NA	NA	NA	NA
Oct-94	260	12,000	–	–	370	<250	<250	<250	<250	ND	ND	ND	<250	ND	<250	ND	NA	NA	NA	NA
Apr-94	810	63,000	–	–	370	49	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Feb-94	520	28,000	–	–	150	1.0	1.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	10	ND	NA	NA	NA	NA
Oct-93	730	100,000	–	–	630	<100	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Aug-93	730	29,000	–	–	470	<100	<50	<50	<50	ND	ND	ND	<100	ND	<50	ND	NA	NA	NA	NA
Apr-93	1,200	26,000	–	–	1,103	3.5	1.9	2.2	<0.5	ND	ND	ND	NA	ND	15	ND	NA	NA	NA	NA
Jul-90	3.0	53	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-90	<0.5	12	–	–	<0.5	<0.5	1.2	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-90	<2.0	240	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-89	3.3	60	–	–	2.8	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	3.3	–	–	–	–	–
May-89	51	970	–	–	120	<10	<10	<10	<10	–	ND	–	<10	ND	<10	–	–	–	–	–
Feb-89	3.6	62	–	–	1.6	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Dec-87	130	62	–	–	320	<50	<50	<50	<50	–	ND	–	<50	ND	<50	–	–	–	–	–
Oct-87	3,400	8,400	–	–	8,800	<1,000	<1,000	<1,000	<1,000	–	ND	–	<1,000	ND	<1,000	–	–	–	–	–
Jan-87	2,700	230,000	–	–	12,000	<500	<500	<500	<500	–	ND	–	<500	ND	6,700	–	–	–	–	–
Jul-86	2700	75,000	–	–	28,000	2,000	<250	<250	<250	–	ND	–	<250	ND	7,700	–	–	–	–	–
Apr-86	4200	24,000	–	–	14,000	530	<100	<100	<100	–	ND	–	<100	ND	9,200	–	–	–	–	–
Oct-85	13000	32,000	–	–	63,000	<250	<250	<250	<250	–	ND	–	<250	ND	<250	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-1B ZB1																				
Per Water Board approval, well 1B was abandoned in February 2004.																				
Oct-02 Dup	<0.5	<0.5	1.7	0.76	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-02	<0.5	<0.5	1.8	0.79	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-01	<0.5	<0.5	1.4	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-00	<1.0	<1.0	1.5	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-99	<1.0	<1.0	1.4	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	<1.0	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<0.5	<0.5	1.3	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<1.0	ND	NA	NA	NA	NA
Oct-96	<0.5	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	<1.0	–	–	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<0.5	<0.5	–	–	0.7	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	<0.5	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	5	–	–	1.4	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Aug-89	<0.5	<0.5	–	–	0.6	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
May-89	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Feb-89	<0.5	<0.5	–	–	0.6	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Nov-88	<0.5	<0.5	–	–	1.4	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Aug-88	<0.5	<0.5	–	–	1.6	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
May-88	<0.5	<0.5	–	–	1.3	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-88	<0.5	<0.5	–	–	0.7	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Oct-87	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jun-87	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Apr-87	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-87	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Sep-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jul-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Apr-86	<0.5	1	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	NA	ND	<0.5	–	–	–	–	–
Oct-85	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Nov-84	<0.5	<0.5	–	–	NA	NA	<0.5	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	ND	ND	–	–	ND	ND	ND	ND	ND	–	ND	–	ND	ND	ND	–	–	–	–	–
Mar-84	NA	<.5	–	–	NA	NA	NA	NA	NA	–	ND	–	NA	ND	ND	–	–	–	–	–
Aug-83	<1.0	<1.0	–	–	<1	<1.0	<1.0	<1.0	<1.0	–	ND	–	<1.0	ND	<1.0	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-2B ZB1																				
Oct-13	<0.50	<2.5	140	1.6		150	<0.50	<0.50	1.0		<1.0	<0.50	<0.50	<1.0	10	12	NA	NA	NA	NA
May-13	<0.50	0.76	80	6.3		77	<0.50	<0.50	0.76		<1.0	<0.50	<0.50	<1.0	6.7	11	<0.50	<0.50	<0.50	<1.0
Oct-12	<0.50	0.65	83	2.5		100	<0.50	<0.50	0.77	<0.50	<1.0	<0.50	<0.50	<1.0	5.7	14	<0.50	<0.50	<0.50	<1.0
Apr-12	<0.50	<0.50	38	1.0	–	34	<0.50	<0.50	0.53	<0.50	<1.0	<0.50	<0.50	<1.0	6.5	25	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	0.72	79	2.1	–	140	<0.50	<0.50	0.72	<0.50	<1.0	<0.50	<0.50	<1.0	7.1	19	<0.50	<0.50	<0.50	1.5
May-11	<0.50	0.59	40	<0.50	–	82	<0.50	<0.50	0.69	<0.50	<0.50	<0.50	<0.50	<0.50	7.5	22	<0.50	<0.50	<0.50	<0.50
Mar-11	<0.50	0.52	9.4	<0.50	–	46	<0.50	<0.50	0.7	<0.50	<0.50	<0.50	<0.50	<0.50	8.6	57	<0.50	<0.50	<0.50	3.2
Nov-10	<2.5	2.5	160	<2.5	–	290	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	23	39	–	–	–	–
Oct-10	<2.5	<2.5	200	<2.5	–	260	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	6.4	17	<2.5	<2.5	<2.5	<5.0
Oct-09	<20	<20	6,600	29	–	3,600	<20	<20	<20	<20	<40	<20	<20	<40	39	230	<20	<20	<20	<40
Oct-08	<2	<2	88	6	–	210	<2	<2	<2	<2	<4	<2	<2	<4	5.2	4.1	<2	<2	<2	<4
Oct-07	<5.0	<5.0	11	7.8	–	270	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	23	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	<5.0	<5.0	<5.0	–	92	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	31	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	<5.0	<5.0	8.2	–	47	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	49	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	<5.0	5.9	11	–	24	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	49	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	<5.0	<5.0	7.0	–	22	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	67	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	<5.0	6.2	<5.0	–	48	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	73	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	5.1	<5.0	<5.0	–	16	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	94	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	<5.0	43	<5.0	–	360	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	130	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	<5.0	<5.0	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	72	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	<5.0	<5.0	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	63	<5.0	<5.0	<5.0	<15
Apr-04	<1.0	<1.0	3.3	<1.0	–	5.4	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA	<1.0	NA	<1.0	<1.0	<1.0	<1.0	<1.0
Jan-04	<5.0	<5.0	<5.0	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Oct-03	<5.0	<5.0	5.2	<5.0	–	9.1	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	88	<5.0	<5.0	<5.0	<10
Jul-03	<1.0	2.6	2.8	<1.0	–	5.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	71	NA	90	<1.0	4.1
Apr-03	<1.0	28	7.6	<1.0	–	41	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	60	NA	7.8	<1.0	2.1
Jan-03	<1.0	33	30	<1.0	–	14	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	66	NA	NA	NA	NA
Oct-02	<1.0	54	46	<1.0	–	170	<1.0	2.5	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	66	2.0	<1.0	1.8	<2.0
Jul-02	<1.0	<1.0	90	<1.0	–	150	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	67	NA	<1.0	<1.0	<2.0
Apr-02	2.7	24	210	6.2	–	190	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	5.9	NA	<1.0	<1.0	<2.0
Jan-02	<10	18	67	<10	–	210	<10	<10	<10	NA	<20	<20	NA	ND	NA	78	NA	<10	11	<20
Oct-01	<50	940	250	180	–	540	<50	<50	<50	NA	<100	<100	NA	<50	NA	<50	NA	90	<50	<100
Oct-01 Dup	<50	580	140	<50	–	700	<50	<50	<50	NA	<100	<100	NA	90	NA	<50	NA	120	<50	<100
Aug-01	2.5	77	680	12	–	800	<1.0	2.5	<1.0	NA	<2.0	<2.0	NA	ND	NA	20	NA	<1.0	<1.0	<2.0
Jun-01	<1.0	5.8	1,500	16	–	1,400	2.6	5.5	1.7	NA	3.1	<2.0	NA	ND	NA	1.7	NA	<1.0	<1.0	<2.0
Apr-01	1.6	14	440	8.7	–	980	<1.0	1.2	<1.0	NA	<2.0	<2.0	NA	ND	NA	2.6	NA	<1.0	<1.0	<2.0
Feb-01	23	31	880	12	–	1,300	<1.0	3.5	<1.0	NA	<2.0	<2.0	NA	ND	NA	1.6	NA	<1.0	<1.0	8.5
Dec-00	<1.0	2.9	53	9.3	–	1,000	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	1.6	NA	<1.0	<1.0	<2.0
Nov-00	<1.0	11	2,300	15	–	300	<1.0	9.5	1.2	NA	<2.0	<2.0	NA	ND	NA	2.0	NA	<1.0	<1.0	<2.0
Oct-00	110	520	2,200	<50	–	340	<50	<50	<50	NA	ND	ND	NA	ND	NA	1.4	NA	<1.0	<1.0	<2.0
Oct-99	55	430	800	<10	–	35	<10	<10	<10	ND	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-98	81	720	1,000	<25	–	110	<25	<25	<25	ND	ND	ND	<25	ND	<25	<25	NA	NA	NA	NA
Apr-98	100	670	1,700	<20	–	300	<20	<20	<20	ND	ND	ND	<80	ND	<20	<20	NA	NA	NA	NA
Oct-97	220	820	3,000	<50	–	200	<50	<50	<50	ND	ND	ND	<50	ND	<100	<50	NA	NA	NA	NA
Oct-97 Dup	220	810	2,800	<50	–	170	<50	<50	<50	ND	ND	ND	<50	ND	<100	ND	NA	NA	NA	NA
Apr-97	170	690	1,400	14	–	230	<13	<13	<13	ND	ND	ND	<13	ND	24	ND	NA	NA	NA	NA
Oct-96	200	880	3,000	21	–	190	<10	19	<10	ND	ND	ND	<10	ND	15	ND	NA	NA	NA	NA
Apr-96	300	1,500	–	–	1,313	230	<2.5	13	<2.5	ND	ND	ND	<2.5	ND	4.9	ND	NA	NA	NA	NA
Oct-95	180	840	–	–	1,400	130	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Aug-95	<40	770	–	–	2,500	540	<40	<40	<40	ND	ND	ND	<40	ND	<40	ND	NA	NA	NA	NA
Oct-94	<25	590	–	–	150	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	330	1,500	–	–	3,134	<5	7	32	<5.0	ND	ND	ND	1.1	ND	35	ND	NA	NA	NA	NA
Oct-93	300	2,600	–	–	7,322	640	<5.0	23	<5.0	ND	ND	ND	<5.0	ND	42	ND	NA	NA	NA	NA
Apr-93	530	3,700	–	–	6,600	2,300	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Oct-92	1,900	7,400	–	–	7,533	1,400	4.8	40	6.8	ND	ND	ND	NA	ND	<500	ND	NA	NA	NA	NA
Aug-92	1,200	5,100	–	–	7,336	1,100	6.5	42	1.7	ND	ND	ND	<1.0	ND	21	ND	NA	NA	NA	NA
Apr-92	1,600	15,000	–	–	16,000	<100	<100	<100	<100	ND	ND	ND	<100	ND	<100	ND	NA	NA	NA	NA
Apr-92	1,100	9,300	–	–	9,800	2,400	<50	53	<50	ND	ND	ND	<50	ND	110	ND	NA	NA	NA	NA
Oct-91	700	15,000	–	–	38,000	3,300	<100	<100	<100	ND	ND	ND	<100	ND	<100	ND	NA	NA	NA	NA
Oct-91	500	10,000	–	–	14,000	1,600	<100	<100	<100	ND	ND	ND	<100	ND	<100	ND	NA	NA	NA	NA
Jul-91	1,000	17,000	–	–	55,120	3,500	<50	150	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Jul-91	240	6,100	–	–	7,200	<100	<50	<50	<50	ND	ND	ND	<100	ND	<50	ND	NA	NA	NA	NA
Apr-91	4.3	2,300	–	–	32	1.0	0.8	<0.5	<0.5	ND	ND	ND	180	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<50	4,200	–	–	<50	<50	<50	<50	<50	ND	ND	ND	240	ND	<50	ND	NA	NA	NA	NA
Jan-91	<200	2,000	–	–	49,000	6,500	<200	<200	<200	ND	ND	ND	<200	ND	<200	ND	NA	NA	NA	NA
Jan-91	<500	5,200	–	–	22,000	7,000	<500	<500	<500	ND	ND	ND	<500	ND	<500	ND	NA	NA	NA	NA
Oct-90	<500	26,000	–	–	53,000	14,000	<500	<500	<500	ND	ND	ND	<500	ND	<500	ND	NA	NA	NA	NA
Oct-90	<200	19,000	–	–	52,000	7,800	<200	<200	<200	ND	ND	ND	<200	ND	<200	ND	NA	NA	NA	NA
Jul-90	<100	3,400	–	–	15,000	3,900	<100	<100	<100	ND	ND	ND	<100	ND	<100	ND	NA	NA	NA	NA
Jul-90	<200	6,000	–	–	21,000	12,000	<200	<200	<200	ND	ND	ND	<200	ND	<200	ND	NA	NA	NA	NA
Apr-90	130	13,000	–	–	41,000	13,000	<100	<100	<100	ND	ND	ND	<100	ND	<100	ND	NA	NA	NA	NA
Apr-90	90	4,200	–	–	11,000	14,000	<50	80	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Jan-90	<1,000	17,000	–	–	110,000	30,000	<1,000	<1000	<1000	ND	ND	ND	<1,000	ND	<1,000	ND	NA	NA	NA	NA
Jan-90	<500	1,600	–	–	40,000	24,000	<500	<500	<500	ND	ND	ND	<500	ND	<500	ND	NA	NA	NA	NA
Oct-89	<200	7,500	–	–	34,000	44,000	<200	<200	<200	–	ND	–	<200	ND	<200	–	–	–	–	–
Aug-89	<2,500	<2500	–	–	48,000	26,000	<2,500	<2500	<2500	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-89	<500	4,000	–	–	40,000	45,000	<500	<500	<500	–	ND	–	<500	ND	<500	–	–	–	–	–
May-89	<200	1,400	–	–	34,000	32,000	<200	<200	<200	–	ND	–	<200	ND	<200	–	–	–	–	–
Feb-89	<500	7,200	–	–	36,000	13,000	<500	<500	<500	–	ND	–	<500	ND	<500	–	–	–	–	–
Nov-88	230	970	–	–	8,700	3,300	<100	<100	<100	–	ND	–	<100	ND	<100	–	–	–	–	–
Aug-88	180	970	–	–	7,300	3,800	<100	<100	<100	–	ND	–	<100	ND	<100	–	–	–	–	–
May-88	54	630	–	–	5,800	1,000	12	120	<5.	–	ND	–	<5.0	ND	<5.0	–	–	–	–	–
Jan-88	170	1,400	–	–	12,000	4,200	<50	<50	<50	–	ND	–	<50	ND	<50	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-2B ZB1 (continued)																				
Oct-87	330	2,000	–	–	3,300	860	59	<25	<25	–	ND	–	<25	ND	71	–	–	–	–	–
Jul-87	490	2,100	–	–	5,400	730	<50	<50	<50	–	ND	–	100	ND	<50	–	–	–	–	–
Jan-87	800	9,100	–	–	7,000	1,100	<25	<25	<25	–	ND	–	<25	ND	710	–	–	–	–	–
Jul-86	1,200	3,800	–	–	2,800	1,400	<10	<10	<10	–	ND	–	<10	ND	860	–	–	–	–	–
Apr-86	580	4,000	–	–	3,600	180	<50	<50	<50	–	ND	–	<50	ND	<50	–	–	–	–	–
Mar-86	1,300	5,500	–	–	3,300	750	<25	<25	<25	–	ND	–	NA	ND	<25	–	–	–	–	–
Oct-85	2,700	7,500	–	–	7,700	<50	<50	<50	<50	–	ND	–	840	ND	<50	–	–	–	–	–
Nov-84	2,300	52,000	–	–	7,200	NA	<130	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	1,500	11,000	–	–	650	ND	ND	ND	ND	–	ND	–	ND	ND	ND	–	–	–	–	–
Mar-84	NA	130,000	–	–	NA	NA	NA	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Sep-83	2,000	73,000	–	–	2,000	NA	ND	ND	ND	–	ND	–	ND	ND	NA	–	–	–	–	–
Sep-83	2,000	290,000	–	–	2,000	NA	ND	ND	ND	–	ND	–	ND	ND	NA	–	–	–	–	–
Aug-83	2,800	1,100,000	–	–	160	<5.0	<5.0	<5.0	<5.0	–	ND	–	<5.0	ND	<5.0	–	–	–	–	–
T-4B ZB1																				
Oct-13	<5.0	9.2	830	1.4 J		<5.0	<5.0	<5.0	<5.0		<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-12	<5.0	8.4	600	17	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<5.0	5.6	570	5.1	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	<0.50	3.7	360	10	–	<0.50	<0.50	1.2	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	2.5	370	2.2	–	<0.50	<0.50	1.1	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	1.4	<0.50	<0.50	<1.0
Oct-08	<5	5.3	500	<5	–	<5	<5	<5	<5	<5	<10	<5	<5	<10	<5	<5	<5	<5	<5	<10
Oct-07	<5.0	7.9	550	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	5.7	430	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	7.3	230	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	<5.0	580	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	7.9	480	12	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	8.4	600	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	9.2	550	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	10	620	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	110	69	<5.0	–	12	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-05	<5.0	9.0	810	20	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	<5.0	6.6	350	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-04	<5.0	8.5	460	5.8	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-04	<1.0	13	540	6.3	–	<1.0	<1.0	<1.0	1.6	NA	<2.0	6.3	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-04	<12	6.4	350	<12	–	<12	<12	<12	<12	NA	<12	<12	NA	<12	NA	<12	<12	<12	<12	<24
Oct-03	<5.0	9.8	340	<5.0	–	7.4	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Jul-03	<1.0	13	<20	3.1	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Apr-03	<1.0	11	350	<1.0	–	<2.0	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	5.8	220	<5.0	–	5.7	<5.0	<5.0	<5.0	<5.0	<10	<10	<5.0	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-01	<5.0	<5.0	66	12	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<2.0	10	100	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-00 Dup	<2.0	9.0	100	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	<2.0	ND	<2.0	<2.0	NA	NA	NA	NA
Oct-99	<1.0	32	32	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	1.6	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	43	40	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	1.8	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<1.0	30	38	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	2.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-96	<0.5	28	17	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.7	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	30	–	–	22	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	2.4	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	53	–	–	23	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<0.5	100	–	–	8.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	2.6	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	61	–	–	4.3	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	75	–	–	13	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	3.6	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	75	–	–	14	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.8	ND	<0.5	ND	NA	NA	NA	NA
Aug-89	<0.5	57	–	–	3	<0.5	<0.5	<0.5	<0.5	–	ND	–	1.8		<0.5	–	–	–	–	–
May-88	<0.5	9	–	–	0.7	<0.5	<0.5	<0.5	<0.5	–	ND	–	0.5		<0.5	–	–	–	–	–
Jan-88	<0.5	14	–	–	0.6	<0.5	<0.5	<0.5	<0.5	–	ND	–	0.6		<0.5	–	–	–	–	–
Apr-86	<0.5	1	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5		<0.5	–	–	–	–	–
Jan-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5		<0.5	–	–	–	–	–
Oct-85	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5		<0.5	–	–	–	–	–
Nov-84	<0.5	1.5	–	–	<0.5	NA	<0.5	NA	NA	–	ND	–	NA		NA	–	–	–	–	–
Aug-84	ND	ND	–	–	ND	ND	ND	ND	ND	–	ND	–	ND		ND	–	–	–	–	–
Mar-84	NA	4	–	–	NA	NA	NA	NA	NA	–	ND	–	NA		NA	–	–	–	–	–
Aug-83	<1.0	<1.0	–	–	10	ND	<1.0	3.6	<1.0	–	ND	–	<1.0		ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-5B ZB1																				
Oct-13	4.5 J	1500	51	<10		<10	<10	<10	<10		<20	<10	150	<20	<10	<10	NA	NA	NA	NA
Oct-13 Dup	4.8 J	1400	73	1.8 J		<5.0	<5.0	2.3 J	<5.0		<10	<5.0	190	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-12	<10	1,600	70/71			<10	<10	<10	<10	<10	<20	<10	170/180	<20	<10	<10	<10	<10	<10	<20
Oct-11 Dup	<25	1,700	58	<25	–	<25	<25	<25	<25	<25	<25	200	200	<25	<25	<25	<25	<25	<25	<50
Oct-11	<10	1,700	58	<10	–	<10	<10	<10	<10	<10	<10	200	200	<10	<10	<10	<10	<10	<10	<20
Oct-10 Dup	3.5	1,200	49	1.2	–	<0.50	<0.50	1.2	0.59	<0.50	<1.0	<0.50	96	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	3.3	1,200	51	1.2	–	<0.50	<0.50	1.2	0.57	<0.50	<1.0	<0.50	89	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09 Dup	1.3	390	12	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	45	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	1.5	380	14	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08 Dup	<20	2,200	39	<20	–	<20	<20	<20	<20	<20	<40	<20	540	<40	<20	<20	<20	<20	<20	<40
Oct-08	<20	2,300	39	<20	–	<20	<20	<20	<20	<20	<40	<20	550	<40	<20	<20	<20	<20	<20	<40
Oct-07	6.2	2,300	46	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	470	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-07 Dup	5.9	2,200	45	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	380	<4.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-06	<2.0	270	5.9	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	18	<4.0	<2.0	<2.0	NA	NA	NA	NA
Oct-06 Dup	<2.0	270	6.1	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	20	<4.0	<2.0	<2.0	NA	NA	NA	NA
Oct-05	<5.0	420	12	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	44	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-05 Dup	<5.0	410	12	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	40	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-04	<5.0	720	21	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	49	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-04 Dup	<5.0	760	21	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	63	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-03	<10	720	18	<10	–	<10	<10	<10	<10	<10	<20	<20	31	<40	<10	<10	NA	NA	NA	NA
Oct-03 Dup	<10	1,200	29	<10	–	<10	<10	<10	<10	<10	<20	<20	60	<40	<10	<10	NA	NA	NA	NA
Oct-02	30	2,200	55	<20	–	<20	<20	<20	<20	<20	<40	<40	450	<80	<20	<20	NA	NA	NA	NA
Oct-02 Dup	<20	2,100	52	<20	–	<20	<20	<20	<20	<20	<40	<40	410	<80	<20	<20	NA	NA	NA	NA
Oct-01	<50	1,700	88	<50	–	<50	<50	<50	<50	<50	<50	<100	<200	<200	<50	<50	NA	NA	NA	NA
Oct-01 Dup	<50	1,900	91	<50	–	<50	<50	<50	<50	<50	<50	<100	<200	<200	<50	<50	NA	NA	NA	NA
Oct-00	<200	2,400	<200	<200	–	<200	<200	<200	<200	<200	ND	ND	260	ND	<200	<200	NA	NA	NA	NA
Oct-99	<10	500	16	<10	–	<10	<10	<10	<10	ND	ND	ND	63	ND	<10	ND	NA	NA	NA	NA
Oct-98	<10	300	<10	<10	–	<10	<10	<10	<10	ND	ND	ND	15	ND	<10	ND	NA	NA	NA	NA
Oct-97	<10	360	<10	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<20	ND	NA	NA	NA	NA
Oct-96	<1.3	390	8.2	<1.3	–	<1.3	<1.3	<1.3	<1.3	ND	ND	ND	34	ND	<1.3	ND	NA	NA	NA	NA
Oct-95	<1.0	110	–	–	1.6	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	4.9	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<25	420	–	–	<25	<25	<25	<25	<25	ND	ND	ND	41	ND	<25	ND	NA	NA	NA	NA
Oct-93	<5.0	500	–	–	<5.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	54	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	<1000	3,600	–	–	33	<1.0	2.2	<0.5	10	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<150	4,000	–	–	<150	<150	<150	<150	<150	ND	ND	ND	640	ND	<150	ND	NA	NA	NA	NA
Apr-92	<100	11,000	–	–	<100	<100	<100	<100	<100	ND	ND	ND	2,400	ND	<100	ND	NA	NA	NA	NA
Jan-92	<100	16,000	–	–	<100	<100	<100	<100	<100	ND	ND	ND	2,800	ND	<100	ND	NA	NA	NA	NA
Oct-91	<100	12,000	–	–	<100	<100	<100	<100	<100	ND	ND	ND	1,900	ND	<100	ND	NA	NA	NA	NA
Jul-91	<50	9,300	–	–	60	<50	<50	<50	<50	ND	ND	ND	2,200	ND	<50	ND	NA	NA	NA	NA
Apr-91	<20	5,700	–	–	30	<20	<20	<20	<20	ND	ND	ND	1,600	ND	<20	ND	NA	NA	NA	NA
Jan-91	<20	2,500	–	–	<20	<20	<20	<20	<20	ND	ND	ND	280	ND	<20	ND	NA	NA	NA	NA
Oct-90	<50	6,300	–	–	<50	<50	<50	<50	<50	ND	ND	ND	270	ND	<50	ND	NA	NA	NA	NA
Jul-90	<20	4,100	–	–	<20	<20	<20	<20	<20	ND	ND	ND	910	ND	<20	ND	NA	NA	NA	NA
Apr-90	<20	3,000	–	–	<20	<20	<20	<20	<20	ND	ND	ND	250	ND	<20	ND	NA	NA	NA	NA
Jan-90	<20	5,500	–	–	<20	<20	<20	<20	<20	ND	ND	ND	1,300	ND	<20	ND	NA	NA	NA	NA
Oct-89	33	6,700	–	–	39	<2.0	2	<2.0	<2.0	–	ND	–	2,700	ND	<2.0	–	–	–	–	–
Aug-89	<50	10,000	–	–	<50	<50	<50	<50	<50	–	ND	–	2,100	ND	<50	–	–	–	–	–
Aug-89	<50	9,200	–	–	<50	<50	<50	<50	<50	–	ND	–	2,300	ND	<50	–	–	–	–	–
Feb-89	<250	8,000	–	–	<250	<250	<250	<250	<250	–	ND	–	2,000	ND	<250	–	–	–	–	–
Nov-88	<5.0	5,500	–	–	18	<5.0	<5.0	<5.0	<5.0	–	ND	–	<5.0	ND	<5.0	–	–	–	–	–
Nov-88	<50	8,000	–	–	<50	<50	<50	<50	<50	–	ND	–	2,000	ND	<50	–	–	–	–	–
Aug-88	<100	14,000	–	–	<100	<100	<100	<100	<100	–	ND	–	2,700	ND	<100	–	–	–	–	–
Jun-88	<250	11,000	–	–	<250	<250	<250	<250	<250	–	ND	–	1,200	ND	<250	–	–	–	–	–
Jun-88	18	7,400	–	–	13	<0.5	7.8	2.5	1.4	–	ND	–	2,500	ND	<0.5	–	–	–	–	–
Jan-88	<250	17,000	–	–	<250	<250	<250	<250	<250	–	ND	–	2,800	ND	<250	–	–	–	–	–
Oct-87	<50	7,800	–	–	<50	<50	120	<50	<50	–	ND	–	1,800	ND	<50	–	–	–	–	–
Jun-87	140	5,500	–	–	25	<25	<25	<25	<25	–	ND	–	1,800	ND	<25	–	–	–	–	–
Apr-87	<25	15,000	–	–	<25	<25	<25	480	<25	–	ND	–	1,700	ND	<25	–	–	–	–	–
Jan-87	33	4,900	–	–	<10	<10	<10	<10	<10	–	ND	–	3,100	ND	<10	–	–	–	–	–
Sep-86	<100	20,500	–	–	<100	<100	<100	<100	<100	–	ND	–	3,150	ND	<100	–	–	–	–	–
Jul-86	<50	6,700	–	–	<50	<50	<50	<50	<50	–	ND	–	3,300	ND	<50	–	–	–	–	–
Apr-86	<25	8,200	–	–	<25	<25	<25	<25	<25	–	ND	–	6,900	ND	<25	–	–	–	–	–
Jan-86	<25	9,100	–	–	<25	<25	<25	<25	<25	–	ND	–	NA	ND	<25	–	–	–	–	–
Oct-85	73	19,000	–	–	<50	<50	<50	<50	<50	–	ND	–	6,300	ND	<50	–	–	–	–	–
Nov-84	19	15,000	–	–	<20	NA	17	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	ND	17,000	–	–	ND	ND	ND	ND	ND	–	ND	–	10,000	ND	ND	–	–	–	–	–
Mar-84	NA	16,000	–	–	NA	NA	NA	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-83	<1.0	3,200	–	–	14	<1.0	<1.0	<1.0	<1.0	–	ND	–	<1.0	ND	<1.0	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-7B ZB1																				
Oct-13	0.86	150	10	0.77		0.38 J	0.58	0.73	0.55		<1.0	<0.50	4.3	<1.0	2.2	<0.50	NA	NA	NA	NA
Oct-13 Dup	0.85	150	11	0.76		0.39 J	0.59	0.70	0.56		<1.0	<0.50	4.3	<1.0	2.1	<0.50	NA	NA	NA	NA
Oct-12	0.55/0.70	160/170	15	0.75/0.79		<0.5	0.52/0.55	0.61/0.60	0.51/0.52	<0.5	<1.0	<0.5	3.2/3.6	<1.0	1.6/2.0	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-11 Dup	1.0	180	14	0.57	–	0.81	0.58	0.58	<0.50	<0.50	<0.50	<0.50	4	<1.0	2.6	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	1.1	170	14	0.57	–	0.82	0.56	0.55	0.5	<0.50	<1.0	<0.50	4	<1.0	2.4	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10 Dup	<1.0	140	13	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	2.9	<2.0	2.0	<1.0	<0.50	<0.50	<0.50	<1.0
Oct-10	<1.0	130	12	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	2.7	<2.0	1.8	<1.0	<0.50	<0.50	<0.50	<1.0
Oct-09 Dup	0.77	140	9.8	<0.50	–	0.60	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	2.8	<1.0	1.2	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.79	150	10	<0.50	–	0.63	0.52	<0.50	<0.50	<0.50	<1.0	<0.50	3.1	<1.0	1.2	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08 Dup	<2	150	7.6	<2	–	<2	<2	<2	<2	<2	<4	<2	4.8	<4	2.3	<2	<2	<2	<2	<4
Oct-08	<2	180	9.4	<2	–	<2	<2	<2	<2	<2	<4	<2	5.7	<4	3.0	<2	<2	<2	<2	<4
Oct-07	1.80	190	16	0.63	–	<0.5	0.92	0.65	0.55	<0.5	<1.0	<0.5	6.6	<0.5	3.6	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-07 Dup	1.70	200	16	0.62	–	<0.5	0.92	0.65	0.57	<0.5	<1.0	<0.5	6.4	<0.5	3.7	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-06	0.71	80	10	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	1.9	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-06 Dup	0.58	88	10	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	1.8	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-05	<1.0	95	13	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	1.9	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-05 Dup	<1.0	88	13	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	1.7	<1.0	<1.0	<1.0	NA	NA	NA	NA
Oct-04	<1.0	140	14	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	2.3	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-04 Dup	<1.0	140	14	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	2.4	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-03	<5.0	190	28	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<10	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Oct-03 Dup	<5.0	190	29	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<10	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	<1.0	140	18	<1.0	–	<2.0	<1.0	<1.0	<1.0	<2.0	<2.0	<2.0	2.9	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<5.0	170	24	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	55	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-02 Dup	<2.0	160	24	<2.0	–	2	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	53	<8.0	<2.0	<2.0	NA	NA	NA	NA
Jul-02	<10	350	34	<10	–	<10	<10	<10	<10	ND	<20	<10	60	ND	<10	<10	NA	NA	NA	NA
Apr-02	<10	240	24	<10	–	<10	<10	<10	<10	ND	<20	<10	35	ND	<10	<10	NA	NA	NA	NA
Jan-02	<10	300	29	<10	–	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Oct-01	<5.0	210	25	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	13	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-01 Dup	<5.0	200	25	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	12	<5.0	<5.0	<5.0	NA	NA	NA	NA
Aug-01	2.1	340	46	1.3	–	<2.0	1.9	2.4	<1.0	ND	8.6	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jun-01	<1.0	68	61	<1.0	–	3.6	<1.0	1.6	<1.0	ND	51	24	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Apr-01	1.4	200	34	<1.0	–	<2.0	1.8	1.2	<1.0	ND	20	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Feb-01	1.2	230	29	<1.0	–	<2.0	1.4	<1.0	<1.0	ND	11	14	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Dec-00	<1.0	1.7	<1.0	<1.0	–	<2.0	<1.0	<1.0	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Nov-00	<1.0	<1.0	<1.0	<1.0	–	<2.0	<1.0	<1.0	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<10	180	24	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Sep-00	1.6	270	29	<1.0	–	<2.0	2.5	1.2	<1.0	ND	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-99	<1.0	4.7	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-98	<1.0	15	1.3	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	5.1	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-97	<0.5	18	2.8	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.9	ND	<1.0	<0.5	NA	NA	NA	NA
Oct-96	<0.5	39	5.3	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.9	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	42	–	–	6.1	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	2.4	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	100	–	–	17	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	590	–	–	59	<10	<5.0	<5.0	<5.0	ND	ND	ND	11	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	1.7	630	–	–	41	3.1	5.7	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<10	1,800	–	–	140	<10	40	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jan-92	<10	1,800	–	–	390	<10	29	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Oct-91	7.0	960	–	–	270	<5.0	14	<5.0	<5.0	ND	ND	ND	18	ND	<5.0	ND	NA	NA	NA	NA
Jul-91	6.0	980	–	–	300	<5.0	11	<5.0	<5.0	ND	ND	ND	35	ND	<5.0	ND	NA	NA	NA	NA
Apr-91	<2.0	460	–	–	52	<2.0	4.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-91	<5.0	870	–	–	62	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	15	ND	<5.0	ND	NA	NA	NA	NA
Oct-90	<5.0	760	–	–	60	<5.0	6.0	<5.0	<5.0	ND	ND	ND	22	ND	<5.0	ND	NA	NA	NA	NA
Jul-90	<2.0	430	–	–	20	<2.0	2.0	<2.0	<2.0	ND	ND	ND	17	ND	<2.0	ND	NA	NA	NA	NA
Apr-90	<5.0	680	–	–	37	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jan-90	<5.0	960	–	–	75	<5.0	6.0	<5.0	<5.0	ND	ND	ND	21	ND	<5.0	ND	NA	NA	NA	NA
Oct-89	<10	1,400	–	–	110	<10	<10	<10	<10	–	ND	–	20	ND	<10	–	–	–	–	–
Aug-89	5	980	–	–	93	13	13	<2.0	<2.0	–	ND	–	40	ND	<2.0	–	–	–	–	–
May-89	6.0	1,400	–	–	60	<5.0	<5.0	<5.0	<5.0	–	ND	–	25	ND	<5.0	–	–	–	–	–
Feb-89	<25	1,600	–	–	<25	<25	<25	<25	<25	–	ND	–	420	ND	<25	–	–	–	–	–
Nov-88	<10	1,300	–	–	<10	<10	<10	<10	<10	–	ND	–	50	ND	<10	–	–	–	–	–
Aug-88	<25	1,800	–	–	<25	<25	<25	<25	<25	–	ND	–	69	ND	<25	–	–	–	–	–
Jun-88	<10	1,300	–	–	32	<10	<10	<10	<10	–	ND	–	56	ND	<10	–	–	–	–	–
Jan-88	<25	2,100	–	–	<25	<25	<25	<25	<25	–	ND	–	280	ND	<25	–	–	–	–	–
Oct-87	<25	2,600	–	–	<25	<25	31	<25	<25	–	ND	–	54	ND	<25	–	–	–	–	–
Jun-87	<25	3,200	–	–	<25	<25	<25	<25	<25	–	ND	–	87	ND	<25	–	–	–	–	–
Apr-87	<25	3,800	–	–	31	<25	<25	<25	<25	–	ND	–	<25	ND	<25	–	–	–	–	–
Jan-87	24	3,100	–	–	25	<10	<10	<10	<10	–	ND	–	360	ND	<10	–	–	–	–	–
Sep-86	<25	5,100	–	–	<25	<25	<25	<25	<25	–	ND	–	660	ND	<25	–	–	–	–	–
Jul-86	<25	5,300	–	–	<25	<25	<25	<25	<25	–	ND	–	370	ND	<25	–	–	–	–	–
Apr-86	<25	3,500	–	–	<25	<25	<25	<25	<25	–	ND	–	<25	ND	<25	–	–	–	–	–
Jan-86	<25	3,500	–	–	<25	<25	<25	<25	<25	–	ND	–	NA	ND	<25	–	–	–	–	–
Oct-85	60	3,300	–	–	26	<25	41	<25	<25	–	ND	–	420	ND	<25	–	–	–	–	–
Nov-84	16	4,400	–	–	19	NA	6.4	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	ND	3,000	–	–	ND	ND	ND	ND	ND	–	ND	–	100	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-8B ZB1																				
Oct-13	<2.5	36	450	8.8		17	<2.5	3.0	<2.5		<5.0	<2.5	<2.5	<5.0	10	<2.5	NA	NA	NA	NA
Oct-12	<2.5	25	290	11		10	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	<2.5	<5.0	7.6	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-11	0.92	24	190	4.1	–	21	<0.50	1.1	0.85	<1.0	<1.0	<0.50	<0.50	<1.0	7.1	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	0.59	22	130	3.5	–	18	<0.50	0.73	0.74	<0.50	<1.0	<0.50	<0.50	<1.0	3.7	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.68	29	39	6.6	–	0.97	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	1.3	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<2	36	150	3.0	–	34	<2	<2	<2	<2	<4	<2	<2	<4	7.1	<2	<2	<2	<2	<4
Oct-07	<5.0	7.5	220	5.9	–	35	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-07	<5.0	25.0	180	<5.0	–	65	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	<5.0	20.0	260	<5.0	–	120	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	6.3	220	<5.0	–	47	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	5.8	230	<5.0	–	64	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	7.5	300	14	–	120	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	9.0	200	5.6	–	170	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	<5.0	7.7	190	6.3	–	160	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-05	<5.0	38	150	<5.0	–	120	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-05	<5.0	47	100	<5.0	–	310	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	<2.0	33	72	3.0	–	140	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	<2.0	<8.0	6.8	<2.0	NA	NA	NA	NA
Jul-04	<5.0	100	80	<5.0	–	150	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-04	1.7	53	58	3.8	–	99	<1.0	<1.0	1.5	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-03	<5.0	98	79	<5.0	–	230	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Jul-03	1.1	60	60	3.6	–	120	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Apr-03	<1.0	59	59	2.3	–	260	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-03	1.7	82	68	2.5	–	80	1.5	1.2	1.4	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	NA	NA	NA
Oct-02	1.6	75	77	<1.0	–	96	1.2	1.2	1.2	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	1.1	<1.0	<1.0	<2.0
Jul-02	<1.0	64	72	<1.0	–	180	<1.0	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Mar-02	2.1	81	78	3.1	–	92	1.2	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jan-02	1.8	98	90	3.8	–	76	1.1	1.3	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	1.6	6.7	7.2
Oct-01	1.8	120	120	4.5	–	<2.0	1.9	1.6	1.2	NA	<2.0	<2.0	NA	<2.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Aug-01	2.2	130	140	4.7	–	110	1.7	1.1	1.1	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Jun-01	1.9	110	120	3.3	–	100	2.5	1.4	1.3	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	1.6	<2.0
Apr-01	1.6	68	99	2.7	–	99	1.5	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Feb-01	1.6	65	150	2.4	–	100	1.3	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	1.7	<1.0	1.3
Dec-00	<1.0	41	14	1.7	–	6.8	2	<1.0	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Nov-00	3.6	140	240	3.5	–	32	3.8	2.2	1.3	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<10	170	160	<10	–	25	<10	<10	<10	NA	ND	ND	<10	ND	NA	<10	NA	<1.0	<1.0	<2.0
Oct-99	6.5	190	160	<5.0	–	19	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	5.8	<5.0	NA	NA	NA	NA
Apr-99	<10	170	160	<10	–	15	<10	<10	<10	ND	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-98	<10	180	200	<10	–	19	<10	<10	<10	ND	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Apr-98	<5.0	200	220	<5.0	–	42	<5.0	<5.0	<5.0	ND	ND	ND	<20	ND	<5.0	<30	NA	NA	NA	NA
Oct-97	<10	210	350	<10	–	35	<10	<10	<10	ND	ND	ND	<10	ND	<20	<10	NA	NA	NA	NA
Apr-97	7.1	220	320	5.4	–	28	4.0	3.0	2.0	ND	ND	ND	4.2	ND	4.8	ND	NA	NA	NA	NA
Oct-96	5.4	200	310	5.2	–	44	3.8	2.4	1.6	ND	ND	ND	3.2	ND	5.8	ND	NA	NA	NA	NA
Apr-96	8.2	260	–	–	284.3	<2.5	4.8	2.5	<2.5	ND	ND	ND	<2.5	ND	<2.5	ND	NA	NA	NA	NA
Oct-95	8.1	230	–	–	354.7	37	5.5	3.1	<2.5	ND	ND	ND	3.3	ND	3.7	ND	NA	NA	NA	NA
Apr-95	9.9	240	–	–	284	41	4.9	<4.0	<4.0	ND	ND	ND	<4.0	ND	<4.0	ND	NA	NA	NA	NA
Oct-94	<25	270	–	–	320	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	13	390	–	–	420	220	9.0	<5.0	<5.0	ND	ND	ND	3.6	ND	10	ND	NA	NA	NA	NA
Oct-93	10	320	–	–	350	140	5.0	<5.0	<5.0	ND	ND	ND	6.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-93	10	370	–	–	260	240	8.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	13	410	–	–	150	62	11	5.3	3.8	ND	ND	ND	NA	ND	17	ND	NA	NA	NA	NA
Apr-92	14	620	–	–	430	110	38	8.0	<5.0	ND	ND	ND	<5.0	ND	10	ND	NA	NA	NA	NA
Jan-92	<50	6,000	–	–	<50	<50	<50	<50	<50	ND	ND	ND	160	ND	<50	ND	NA	NA	NA	NA
Oct-91	20	440	–	–	130	<2.0	26	6	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Jul-91	18	420	–	–	230	<2.0	19	6.0	2.0	ND	ND	ND	5.0	ND	6.0	ND	NA	NA	NA	NA
Apr-91	20	680	–	–	90	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jan-91	26	660	–	–	20	<5.0	9.0	5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-90	17	600	–	–	590	350	10	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Jul-90	26	810	–	–	600	390	12	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-90	40	1,600	–	–	1,400	1,700	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
May-89	54	1,700	–	–	340	880	<10	<10	<10	–	ND	–	<10	ND	<10	–	–	–	–	–
Feb-89	51	2,500	–	–	270	870	<25	<25	<25	–	ND	–	<25	ND	<25	–	–	–	–	–
Nov-88	25	360	–	–	100	490	15	<5.0	<5.0	–	ND	–	15	ND	<5.0	–	–	–	–	–
Aug-88	24	370	–	–	340	1,800	28	<10	<10	–	ND	–	36	ND	<10	–	–	–	–	–
May-88	40	750	–	–	610	770	24	5.2	<5.0	–	ND	–	24	ND	41	–	–	–	–	–
Jan-88	79	1,000	–	–	610	690	100	<10	<10	–	ND	–	59	ND	41	–	–	–	–	–
Oct-87	63	610	–	–	610	460	33	4.9	<5.0	–	ND	–	55	ND	36	–	–	–	–	–
Jul-87	85	720	–	–	990	260	12	<10	<10	–	ND	–	<10	ND	17	–	–	–	–	–
Jan-87	170	570	–	–	560	170	19	4.8	<2.5	–	ND	–	<2.5	ND	90	–	–	–	–	–
Jul-86	170	<5.0	–	–	600	<5.0	25	<5.0	<5.0	–	ND	–	<5.0	ND	<5.0	–	–	–	–	–
Apr-86	240	650	–	–	1,300	360	<5.0	<5.0	<5.0	–	ND	–	<5.0	ND	<5.0	–	–	–	–	–
Mar-86	1,100	4,300	–	–	3,200	<25	<25	<25	<25	–	ND	–	NA	ND	<25	–	–	–	–	–
Mar-86	750	2,800	–	–	1,700	<10	<10	<10	<10	–	ND	–	NA	ND	<10	–	–	–	–	–
Mar-86	810	2,200	–	–	1,400	<10	<10	<10	<10	–	ND	–	NA	ND	<10	–	–	–	–	–
Oct-85	370	1,600	–	–	880	<25	63	<25	<25	–	ND	–	200	ND	<25	–	–	–	–	–
Oct-85	330	1,600	–	–	890	<25	62	<25	<25	–	ND	–	250	ND	<25	–	–	–	–	–
Nov-84	360	2,600	–	–	410	NA	6	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	260	2,300	–	–	580	ND	ND	ND	ND	–	ND	–	ND	ND	ND	–	–	–	–	–

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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-9B ZB1																				
Oct-13	2.2 J	410	280	5.0		3.6 J	<5.0	3.3 J	<5.0		<10	<5.0	1.5 J	<10	<5.0	<5.0	NA	NA	NA	NA
Oct-12	<5.0	130	360	5.1		<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<5.0	110	350	<5.0	–	5.1	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	0.87	96	250	3.4	–	12	<0.50	1.7	0.76	<0.50	<1.0	<0.50	1.0	<1.0	1.1	<0.50	<0.5	<0.5	<0.5	<1.0
Oct-09	<10	31	290	<10	–	69	<10	<10	<10	<10	<20	<10	<10	<20	<10	<10	<10	<10	<10	<20
Oct-08	<5	280	110	<5	–	<5	<5	<5	<5	<5	<10	<5	7.9	<10	<5	<5	<5	<5	<5	<10
Oct-07	4.4	470	190	3.2	–	9.8	<0.5	2.2	0.83	<0.5	<1.0	<0.5	8.4	<1.0	1.6	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-06	<0.5	4.6	31	1.4	–	30	<0.5	<0.5	0.51	<0.5	<0.5	<1.0	<0.5	<0.5	0.61	<0.5	NA	NA	NA	NA
Oct-05	<5.0	16	630	5.9	–	150	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-04	<5.0	470	300	5.1	–	33	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-03	<5.0	390	560	7.8	–	38	<5.0	6.4	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	2.0	550	240	3.6	–	19	1.7	4.3	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	3.4	460	180	3.7	–	8.7	<2.5	2.8	<2.5	<2.5	<5.0	<5.0	5.3	<10	<2.5	<2.5	NA	NA	NA	NA
Jul-02	<5.0	460	190	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	<10	<5.0	<5.0	ND	<5.0	<5.0	NA	NA	NA	NA
Apr-02	<5.0	510	210	<5.0	–	5.3	<5.0	<5.0	<5.0	ND	<10	<5.0	<5.0	ND	<5.0	<5.0	NA	NA	NA	NA
Jan-02	<10	680	270	<10	–	<10	<10	<10	<10	ND	<20	<10	<10	ND	<10	<10	NA	NA	NA	NA
Oct-01	<10	780	150	<10	–	<10	<10	<10	<10	<10	<10	<20	<40	<40	<10	<10	NA	NA	NA	NA
Aug-01	<10	460	160	<10	–	<10	<10	<10	<10	NA	<10	<10	NA	ND	NA	<10	<10	<10	<10	<10
Oct-00	<70	1,000	200	<70	–	<70	<70	<70	<70	<70	ND	ND	<70	ND	<70	<70	NA	NA	NA	NA
Oct-99	<25	1,000	170	<25	–	46	<25	<25	<25	ND	ND	ND	<25	ND	<25	<25	NA	NA	NA	NA
Apr-99	<100	1,200	170	<100	–	<100	<100	<100	<100	ND	ND	ND	<100	ND	<100	<100	NA	NA	NA	NA
Apr-99 Dup	<100	1,100	160	<100	–	<100	<100	<100	<100	ND	ND	ND	<100	ND	<100	ND	NA	NA	NA	NA
Oct-98	<25	1,000	130	<25	–	37	<25	<25	<25	ND	ND	ND	<25	ND	<25	<25	NA	NA	NA	NA
Apr-98	<100	2,200	130	<100	–	<100	<100	<100	<100	ND	ND	ND	<400	ND	<100	<600	NA	NA	NA	NA
Apr-98 Dup	<100	2,000	<100	<100	–	<100	<100	<100	<100	ND	ND	ND	<400	ND	<100	ND	NA	NA	NA	NA
Oct-97	<50	1,600	150	<50	–	<50	<50	<50	<50	ND	ND	ND	<50	ND	<100	<50	NA	NA	NA	NA
Apr-97	15	1,300	130	<6.3	–	33	<6.3	<6.3	<6.3	ND	ND	ND	26	ND	8.1	ND	NA	NA	NA	NA
Oct-96	12	1,200	110	<5.0	–	25	<5.0	<5.0	<5.0	ND	ND	ND	13	ND	<5.0	ND	NA	NA	NA	NA
Apr-96	19	1,000	–	–	120	15	<2.5	<2.5	<2.5	ND	ND	ND	9.3	ND	6.1	ND	NA	NA	NA	NA
Oct-95	11	1,100	–	–	190	22	<10	<10	<10	ND	ND	ND	12	ND	<10	ND	NA	NA	NA	NA
Apr-95	<20	1,300	–	–	110	<40	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Oct-94	<25	1,200	–	–	120	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Apr-94	22	1,300	–	–	110	55	<5.0	<5.0	<5.0	ND	ND	ND	28	ND	5.0	ND	NA	NA	NA	NA
Oct-93	14	1,900	–	–	99	35	<5.0	<5.0	<5.0	ND	ND	ND	51	ND	<5.0	ND	NA	NA	NA	NA
Apr-93	<50	3,200	–	–	75	<100	<50	<50	<50	ND	ND	ND	69	ND	<50	ND	NA	NA	NA	NA
Oct-92	36	5,100	–	–	<500	19	3.9	<0.5	3.4	ND	ND	ND	NA	ND	6.1	ND	NA	NA	NA	NA
Apr-92	<50	5,600	–	–	<50	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Jan-92	<30	4,100	–	–	<30	<30	<30	<30	<30	ND	ND	ND	<30	ND	<30	ND	NA	NA	NA	NA
Oct-91	<20	3,200	–	–	340	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jul-91	<20	3,100	–	–	1,100	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Apr-91	<20	2,100	–	–	1,200	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jan-91	10	2,200	–	–	580	30	<10	10	<10	ND	ND	ND	20	ND	<10	ND	NA	NA	NA	NA
Oct-90	<20	3,900	–	–	590	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jul-90	30	5,200	–	–	420	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jan-90	61	6,100	–	–	120	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Oct-89	38	3,800	–	–	160	20	<10	<10	<10	–	ND	–	50	ND	<10	–	–	–	–	–
Aug-89	61	7,300	–	–	<50	<50	<50	<50	<50	–	ND	–	200	ND	<50	–	–	–	–	–
Jun-89	39	3,500	–	–	130	73	<10	<10	<10	–	ND	–	150	ND	<10	–	–	–	–	–
Feb-89	<25	6,400	–	–	45	<25	<25	<25	<25	–	ND	–	200	ND	<25	–	–	–	–	–
Nov-88	50	6,900	–	–	<50	<50	80	<50	<50	–	ND	–	310	ND	<50	–	–	–	–	–
Aug-88	36	5,200	–	–	85	18	13	4.7	1.5	–	ND	–	170	ND	8	–	–	–	–	–
Aug-88	<50	6,000	–	–	<50	<50	<50	<50	<50	–	ND	–	<50	ND	<50	–	–	–	–	–
May-88	360	12,000	–	–	710	120	180	<100	<100	–	ND	–	1,700	ND	<100	–	–	–	–	–
Jan-88	50	4,800	–	–	70	<10	10	<10	<10	–	ND	–	180	ND	<10	–	–	–	–	–
Jan-88	<100	12,000	–	–	<100	<100	<100	<100	<100	–	ND	–	<100	ND	<100	–	–	–	–	–
Nov-87	<50	3,900	–	–	340	150	<50	<50	<50	–	ND	–	290	ND	NA	–	–	–	–	–
Oct-87	<50	6,900	–	–	450	150	<50	<50	<50	–	ND	–	390	ND	<50	–	–	–	–	–
Jul-87	44	1,300	–	–	1300	220	30	<10	<10	–	ND	–	36	ND	54	–	–	–	–	–
Jan-87	<50	17,000	–	–	<50	<50	160	<50	<50	–	ND	–	620	ND	<50	–	–	–	–	–
Jul-86	<50	7,900	–	–	<50	<50	<50	<50	<50	–	ND	–	<50	ND	<50	–	–	–	–	–
Apr-86	98	7,300	–	–	<25	<25	<25	<25	<25	–	ND	–	<25	ND	<25	–	–	–	–	–
Mar-86	590	14,000	–	–	<100	<100	<100	<100	<100	–	ND	–	NA	ND	<100	–	–	–	–	–
Mar-86	<100	16,000	–	–	<100	<100	<100	<100	<100	–	ND	–	NA	ND	<100	–	–	–	–	–
Mar-86	<100	9,600	–	–	<100	<100	<100	<100	<100	–	ND	–	NA	ND	<100	–	–	–	–	–
Oct-85	320	29,000	–	–	<50	<50	<50	<50	<50	–	ND	–	1,200	ND	<50	–	–	–	–	–
Nov-84	15	2,900	–	–	9	NA	<25	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-84	330	7,900	–	–	ND	ND	ND	ND	ND	–	ND	–	700	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-10B ZB1																				
Oct-13	0.59	17	50	0.21 J		<0.50	<0.50	<0.50	0.43 J		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	2.7	50	140	3.1		21	<0.50	0.99	0.76	<0.50	<1.0	<0.50	<0.50	<1.0	5.4	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	3.2	48	110	3.0	–	24	<0.50	1.2	1	<0.50	<1.0	<0.50	<0.50	<1.0	5.2	<0.50	<0.5	<0.5	<0.5	1.2
Oct-10	2.0	44	97	2.3	–	23	<0.50	0.57	0.77	<0.50	<1.0	<0.50	<0.50	<1.0	3.7	<0.50	<0.5	<0.5	<0.5	<1
Oct-09	0.94	20	49	1.4	–	9.8	<0.50	<0.50	0.55	<0.50	<1.0	<0.50	<0.50	<1.0	1.5	<0.50	1.5	<0.50	<0.50	<1.0
Oct-08	2.1	45	48	1.8	–	10	<0.5	<0.5	0.82	<0.5	<1	<0.5	<0.5	<1	3.2	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	6.6	86	62	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	5.4	65	61	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	7.2	80	87	<5.0	–	8.9	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	12.0	130	140	<5.0	–	17.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	7.8	120	130	<5.0	–	6.2	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	8.1	150	170	<5.0	–	9.3	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	20	150	190	10.0	–	17	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	10	170	190	<5.0	–	51	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-05	9.9	180	79	<5.0	–	39	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-04	11	170	57	2.0	–	29	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	1.1	<4.0	10	<1.0	NA	NA	NA	NA
Oct-03	12	140	73	2.1	–	43	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	<2.0	<8.0	10	<2.0	NA	NA	NA	NA
Oct-02	8.9	130	56	2.8	–	11	1.2	<1.0	<1.0	<1.0	<2.0	<2.0	1.4	<4.0	8.4	<1.0	NA	NA	NA	NA
Jul-02	10	170	97	<2.5	–	16	<2.5	<2.5	<2.5	ND	<2.5	<5.0	<2.5	ND	6.9	<2.5	NA	NA	NA	NA
Apr-02	12	200	110	<2.5	–	15	<2.5	<2.5	<2.5	ND	<2.5	<5.0	<2.5	ND	10	<2.5	NA	NA	NA	NA
Jan-02	14	230	130	<2.5	–	25	<2.5	<2.5	<2.5	ND	<2.5	<5.0	<2.5	ND	12	<2.5	NA	NA	NA	NA
Oct-01	8.2	160	75	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Aug-01	7.6	170	110	<5.0	–	27	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	ND	NA	<5.0	<5.0	<5.0	<5.0	<5.0
Apr-01	9.6	160	100	<2.5	–	20	<2.5	<2.5	<2.5	ND	<10	<2.5	<10	ND	9.6	<2.5	NA	NA	NA	NA
Jan-01	13	210	130	2.7	–	12	2.9	1.2	<1.0	NA	<2.0	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<20	170	110	<15	–	<15	<15	<15	<15	<15	<15	<20	<20	<15	<15	<15	NA	NA	NA	NA
T-17B ZB1																				
Oct-13	<5.0	130	390	<5.0		<5.0	<5.0	<5.0	<5.0		<10	<5.0	<5.0	<10	<5.0	<5.0	NA	NA	NA	NA
May-13	<5.0	120	370	<5.0		<5.0	<5.0	<5.0	<5.0		<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-12	<5.0	310	230	<5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	14	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Apr-12	<5.0	110	510	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	8.9	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Apr-12 Dup	<5.0	110	490	<5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	9.9	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<5.0	270	230	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	8.1	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	<5.0	120	320	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	69.0	190	3.5	–	<0.50	<0.50	0.69	<0.50	<0.50	<1.0	<0.50	2.1	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<5	400.0	62	<5	–	<5	<5	<5	<5	<5	<10	<5	20	<10	<5	<5	<5	<5	<5	<10
Oct-07	<5.0	610	79	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-07	<5.0	450	87	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
May-07	<5.0	430	140	<5.0	–	11	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-07	12	660	220	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Oct-06	<5.0	240	280	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jul-06	<5.0	200	460	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Apr-06	<5.0	340	420	6.8	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
Jan-06	<5.0	400	280	<5.0	–	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<15
T-18B ZB1																				
Oct-13	<0.50	<0.50	<0.50	<0.50		<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<0.50	<0.50	<0.50	<0.50		<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
T-19B ZB1																				
Oct-13	<0.50	56	1.8	<0.50		<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	1.4	<1.0	<0.50	<0.50	NA	NA	NA	NA
May-13	<0.50	53	1.9	<0.50		<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	1.2	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0

Historic Groundwater Volatile Organic Compound Results
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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-2C ZB2																				
Oct-13	<0.50	110	44	<0.50		<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	<5.0	310	160	<0.50		19	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<0.50	310	88	1.1	–	11	<0.50	1.4	<0.50	<0.50	<1.0	<0.50	3	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	81	22	0.60	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	0.56	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	0.65	460	94	2.0	–	33	<0.50	1.4	<0.50	<0.50	<1.0	<0.50	9.2	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<1	130	33	<1	–	1.6	<1	<1	<1	<1	<2	<1	2.3	<2	<1	<1	<1	<1	<1	<2
Oct-07	2.3	1,200	43	<2.0	–	6.8	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	36	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-06	<2.0	190	28	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	2.8	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-05	<2.0	260	38	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	4.8	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-04	<2.0	280	37	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	6.3	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-03	<5.0	340	56	<5.0	–	6.7	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	<5.0	<5.0	<10
Apr-03	<1.0	1,300	47	<1.0	–	52	1.7	1.9	<1.0	NA	<2.0	<2.0	NA	<1.0	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-02	<2.5	400	59	<2.5	–	2.7	<2.5	<2.5	<2.5	<2.5	<5.0	<5.0	11	<10	<2.5	<2.5	NA	NA	NA	NA
Jul-02	<25	1,500	47	<25	–	42	<25	<25	<25	ND	<25	<50	<25	ND	<25	<25	NA	NA	NA	NA
Apr-02	<25	1,500	74	<25	–	32	<25	<25	<25	ND	<25	<50	<25	ND	<25	<25	NA	NA	NA	NA
Jan-02	<25	1,800	110	<25	–	45	<25	<25	<25	ND	<25	<50	<25	ND	<25	<25	NA	NA	NA	NA
Oct-01	7.0	1,500	220	2.3	–	49	<1.0	2	<1.0	NA	5.1	<2.0	NA	<1.0	NA	1.4	NA	5.8	<1.0	19.9
Jun-01	<25	1,300	630	<25	–	110	<25	<25	<25	ND	<25	<25	<100	ND	<25	ND	NA	NA	NA	NA
Mar-01	<25	1,800	79	<25	–	52	<25	<25	<25	ND	<25	<25	<100	ND	<25	<25	NA	NA	NA	NA
Jan-01	3.3	3,400	70	2.5	–	20	<1.0	6.6	<1.0	NA	12	<2.0	NA	ND	NA	<1.0	NA	<1.0	<1.0	<2.0
Oct-00	<100	2,700	110	<100	–	<100	<100	<100	<100	<100	ND	ND	380	ND	<100	<100	NA	NA	NA	NA
Oct-99	<100	4,600	<100	<100	–	<100	<100	<100	<100	ND	ND	ND	510	ND	<100	<100	NA	NA	NA	NA
Oct-99 Dup	<100	4,000	<100	<100	–	<100	<100	<100	<100	ND	ND	ND	440	ND	<100	ND	NA	NA	NA	NA
Apr-99	<100	3,600	<100	<100	–	<100	<100	<100	<100	ND	ND	ND	410	ND	<100	<100	NA	NA	NA	NA
Oct-98	<25	1,000	130	<25	–	<25	<25	<25	<25	ND	ND	ND	92	ND	<25	<25	NA	NA	NA	NA
Apr-98 **	<50	3,500	<50	<50	–	<50	<50	<50	<50	ND	ND	ND	320	ND	<50	<50	NA	NA	NA	NA
Oct-97	<100	3,600	<100	<100	–	<100	<100	<100	<100	ND	ND	ND	400	ND	<200	<100	NA	NA	NA	NA
Apr-97	<25	4,000	28	<25	–	34	<25	<25	<25	ND	ND	ND	420	ND	<25	ND	NA	NA	NA	NA
Oct-96	<17	4,000	21	<17	–	34	<17	<17	<17	ND	ND	ND	260	ND	<17	ND	NA	NA	NA	NA
Oct-95	<25	3,100	–	–	<25	<50	<25	<25	<25	ND	ND	ND	280	ND	<25	ND	NA	NA	NA	NA
Aug-95	<40	2,000	–	–	<40	<80	<40	<40	<40	ND	ND	ND	51	ND	<40	ND	NA	NA	NA	NA
Oct-94	<50	3,600	–	–	<50	<50	<50	<50	<50	ND	ND	ND	300	ND	<50	ND	NA	NA	NA	NA
Apr-94	<5.0	7,200	–	–	20	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	200	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	3,000	–	–	10	<10	<5.0	<5.0	<5.0	ND	ND	ND	180	ND	<5.0	ND	NA	NA	NA	NA
Apr-93	<50	3,400	–	–	<50	<100	<50	<50	<50	ND	ND	ND	210	ND	<50	ND	NA	NA	NA	NA
Oct-92	3.9	8,200	–	–	14	<1.0	1	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<20	2,800	–	–	<20	<20	<20	<20	<20	ND	ND	ND	60	ND	<20	ND	NA	NA	NA	NA
Jan-92	<30	5,200	–	–	<30	<30	<30	<30	<30	ND	ND	ND	120	ND	<30	ND	NA	NA	NA	NA
Oct-91	<20	4,700	–	–	120	<20	<20	<20	<20	ND	ND	ND	200	ND	<20	ND	NA	NA	NA	NA
Jul-91	<20	3,900	–	–	<20	<20	<20	<20	<20	ND	ND	ND	210	ND	<20	ND	NA	NA	NA	NA
Apr-91	<20	2,400	–	–	<20	<20	<20	<20	<20	ND	ND	ND	50	ND	<20	ND	NA	NA	NA	NA
Jan-91	<20	4,000	–	–	<20	<20	<20	<20	<20	ND	ND	ND	220	ND	<20	ND	NA	NA	NA	NA
Oct-90	<20	2,100	–	–	<20	<20	<20	<20	<20	ND	ND	ND	90	ND	<20	ND	NA	NA	NA	NA
Jul-90	<20	3,300	–	–	<20	<20	<20	<20	<20	ND	ND	ND	240	ND	<20	ND	NA	NA	NA	NA
Apr-90	<20	4,900	–	–	<20	<20	<20	<20	<20	ND	ND	ND	370	ND	<20	ND	NA	NA	NA	NA
Jan-90	<20	3,600	–	–	<20	<20	<20	<20	<20	ND	ND	ND	390	ND	<20	ND	NA	NA	NA	NA
Oct-89	<20	3,300	–	–	<20	<20	<20	<20	<20	–	ND	ND	180	ND	<20	–	–	–	–	–
Aug-89	<25	4,300	–	–	<25	<25	25	<25	<25	–	ND	ND	420	ND	<25	–	–	–	–	–
May-89	<25	3,900	–	–	<25	<25	<25	<25	<25	–	ND	ND	270	ND	<25	–	–	–	–	–
May-89	<25	3,500	–	–	<25	<25	<25	<25	<25	–	ND	ND	230	ND	<25	–	–	–	–	–
Feb-89	<25	3,100	–	–	<25	<25	<25	<25	<25	–	ND	ND	220	ND	<25	–	–	–	–	–
Nov-88	65	3,000	–	–	<50	<50	<50	<50	<50	–	ND	ND	440	ND	<50	–	–	–	–	–
Aug-88	<25	3,400	–	–	<25	<25	36	<25	<25	–	ND	ND	400	ND	<25	–	–	–	–	–
Jun-88	<10	5,500	–	–	<10	<10	<10	<10	<10	–	ND	ND	330	ND	<10	–	–	–	–	–
Jan-88	<100	4,400	–	–	<100	<100	<100	<100	<100	–	ND	ND	<100	ND	<100	–	–	–	–	–
Oct-87	<25	3,500	–	–	<25	<25	<25	<25	<25	–	ND	ND	240	ND	<25	–	–	–	–	–
Jul-87	<25	4,200	–	–	<25	<25	<25	<25	<25	–	ND	ND	220	ND	<25	–	–	–	–	–
Jan-87	<10	3,300	–	–	<10	<10	<10	<10	<10	–	ND	ND	170	ND	<10	–	–	–	–	–
Jul-86	<10	2,000	–	–	<10	<10	<10	<10	<10	–	ND	ND	650	ND	<10	–	–	–	–	–
Apr-86	<2.0	1,200	–	–	<2	<2.0	<2.0	<2.0	<2.0	–	ND	ND	<2.0	ND	<2.0	–	–	–	–	–
Mar-86	49	4,200	–	–	<25	<25	<25	<25	<25	–	ND	ND	NA	ND	<25	–	–	–	–	–
Mar-86	<25	5,500	–	–	<25	<25	<25	<25	<25	–	ND	ND	NA	ND	<25	–	–	–	–	–
Oct-85	<25	4,200	–	–	31	<25	<25	<25	<25	–	ND	ND	950	ND	<25	–	–	–	–	–
Nov-84	8.4	4,400	–	–	13	NA	<1.0	NA	NA	–	ND	ND	NA	ND	NA	–	–	–	–	–
Aug-84	7.2	760	–	–	3	NA	<0.1	<0.1	NA	–	ND	ND	39	ND	NA	–	–	–	–	–
Aug-84	10	2,300	–	–	12	ND	ND	6	ND	–	ND	ND	1,000	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-9C ZB2																				
Oct-13	<0.50	<0.50	0.36 J	<0.50		<0.50	<0.50	<0.50	<0.50		<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	<0.50	5	3.7	<0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<1.0	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	<0.50	<0.50	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	0.98	2.1	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	78	57	2.2	–	2.8	<0.50	1.7	<0.50	<0.50	<1.0	<0.50	0.63	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<0.5	43	17	0.6	–	0.66	<0.5	0.82	<0.5	<0.5	<1	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<0.5	88	36	1.4	–	1.6	<0.5	1.7	<0.5	<0.5	<1.0	<0.5	1.1	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0
Oct-06	<0.5	0.88	0.54	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-05	<0.5	1.7	1.4	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-04	<0.5	6.1	2.9	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<1.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-03	<2.5	83	59	<2.5	–	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<5.0	<2.5	<10	<2.5	<2.5	NA	NA	NA	NA
Oct-02	<0.5	3.1	2.4	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-01	<5.0	94	65	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<3.0	66	43	<3.0	–	<3.0	<3.0	<3.0	<3.0	<3.0	ND	ND	<3.0	ND	<3.0	<3.0	NA	NA	NA	NA
Oct-99	<1.0	3.9	1.9	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-99 Dup	<1.0	4.0	1.7	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	2.4	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97	<0.5	2.9	0.9	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<1.0	ND	NA	NA	NA	NA
Oct-96	<0.5	25	3.8	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	8.6	–	–	1.8	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<0.5	12	–	–	2	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<0.5	66	–	–	13	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	4.9	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	8	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	51	–	–	1	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	18	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	81	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	9.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	73	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	9.8	ND	<0.5	ND	NA	NA	NA	NA
Aug-89	<1.0	190	–	–	1	<1.0	<1.0	<1.0	<1.0	–	–	–	33	ND	<1.0	–	–	–	–	–
May-88	<2.5	470	–	–	<2.5	<2.5	<2.5	<2.5	<2.5	–	–	–	160	ND	<2.5	–	–	–	–	–
Jan-88	<5.0	330	–	–	<5.0	<5.0	7.5	<5.0	<5.0	–	–	–	280	ND	<5.0	–	–	–	–	–
Jul-86	<0.5	9.2	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	–	–	32	ND	<0.5	–	–	–	–	–
Apr-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	–	–	NA	ND	<0.5	–	–	–	–	–
Oct-85	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	–	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-85	<0.5	<0.5	–	–	<0.5	NA	<0.5	NA	NA	–	–	–	<0.5	ND	NA	–	–	–	–	–

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Former TRW Microwave Facility
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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-10C ZB2																				
Oct-13	<10	1100	58	<10		<10	<10	<10	<10		<20	<10	170	<20	<10	<10	NA	NA	NA	NA
Oct-12	<5.0	1,200	83			<5.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	160	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-11	<5.0	890	88	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	160	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<10
Oct-10	<0.50	790	61	2.2	–	2.5	<0.50	2.4	<0.50	<0.50	<1.0	<0.50	120	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	3.0	350	4.0	–	14	<0.50	2.4	<0.50	<0.50	<1.0	<0.50	57	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<50	1,900	68	<50	–	<50	<50	<50	<50	<50	<100	<50	450	<100	<50	<50	<50	<50	<50	<100
Oct-07	2.5	4,500	100	6.5	–	6.8	<2.5	7.1	<2.5	<2.5	<2.5	<2.5	570	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-06	<2.5	340	14	<2.5	–	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	70	<2.5	<2.5	<2.5	NA	NA	NA	NA
Oct-05	<5.0	710	28	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	110	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-04	<2.0	270	10	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	39	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-03	<5.0	290	9.8	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<10	40	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-02	<2.5	390	18	<2.5	–	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<5.0	61	<10	<2.5	<2.5	NA	NA	NA	NA
Oct-01	<50	1,600	180	<50	–	<50	<50	<50	<50	<50	<50	100	780	<200	<50	<50	NA	NA	NA	NA
Oct-00	<40	440	58	<40	–	<40	<40	<40	<40	<40	ND	ND	<40	ND	<40	<40	NA	NA	NA	NA
Oct-99	<2.0	110	20	<2.0	–	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	11	ND	<2.0	ND	NA	NA	NA	NA
Oct-98	<5.0	130	12	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	9.7	ND	<5.0	ND	NA	NA	NA	NA
Oct-97	<2.5	57	<2.5	<2.5	–	<2.5	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<5.0	ND	NA	NA	NA	NA
Oct-96	<0.5	46	1.6	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	0.8	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	38	–	–	3.2	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<25	200	–	–	<25	<25	<25	<25	<25	ND	ND	ND	<25	ND	<25	ND	NA	NA	NA	NA
Oct-93	<0.5	260	–	–	0.9	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	250	–	–	0.8	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	290	–	–	0.9	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	97	–	–	1.1	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	8.3	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	3.0	2,300	–	–	6.5	<0.5	4.5	79	0.6	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<20	4,400	–	–	<20	<20	<20	<20	<20	ND	ND	ND	<20	ND	<20	ND	NA	NA	NA	NA
Jan-92	<30	2,900	–	–	<30	<30	<30	<30	<30	ND	ND	ND	90	ND	<30	ND	NA	NA	NA	NA
Oct-91	<50	5,900	–	–	<50	<50	<50	<50	<50	ND	ND	ND	<50	ND	<50	ND	NA	NA	NA	NA
Oct-91	<20	2,700	–	–	<20	<20	<20	<20	<20	ND	ND	ND	110	ND	<20	ND	NA	NA	NA	NA
Oct-91	<10	4,100	–	–	<10	<20	<10	<10	<10	ND	ND	ND	180	ND	<10	ND	NA	NA	NA	NA
Jul-91	<50	7,000	–	–	<50	<50	<50	<50	<50	ND	ND	ND	220	ND	<50	ND	NA	NA	NA	NA
Jul-91	<50	6,800	–	–	<50	<50	<50	<50	<50	ND	ND	ND	360	ND	<50	ND	NA	NA	NA	NA
Jul-91	<50	5,400	–	–	<50	<100	<50	<50	<50	ND	ND	ND	200	ND	<50	ND	NA	NA	NA	NA
Apr-91	1	2,200	–	–	5.5	<1.0	6.0	16	1.4	ND	ND	ND	170	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<50	5,200	–	–	<50	<50	<50	<50	<50	ND	ND	ND	340	ND	<50	ND	NA	NA	NA	NA
Apr-91	<50	3,500	–	–	<50	<50	<50	<50	<50	ND	ND	ND	210	ND	<50	ND	NA	NA	NA	NA
Jan-91	<20	4,100	–	–	<20	<20	<20	40	<20	ND	ND	ND	150	ND	<20	ND	NA	NA	NA	NA
Jan-91	<20	4,000	–	–	<20	<20	<20	70	<20	ND	ND	ND	160	ND	<20	ND	NA	NA	NA	NA
Jan-91	<25	3,000	–	–	<25	<50	27	41	<25	ND	ND	ND	270	ND	<25	ND	NA	NA	NA	NA
Oct-90	<20	4,200	–	–	<20	<20	<20	<20	<20	ND	ND	ND	550	ND	<20	ND	NA	NA	NA	NA
Jul-90	<20	4,600	–	–	<20	<20	<20	<20	<20	ND	ND	ND	490	ND	<20	ND	NA	NA	NA	NA
Jul-90	<200	6,800	–	–	<200	<400	<200	<200	<200	ND	ND	ND	860	ND	<200	ND	NA	NA	NA	NA
Apr-90	<100	11,000	–	–	<100	<100	<100	<100	<100	ND	ND	ND	670	ND	<100	ND	NA	NA	NA	NA
Apr-90	<100	11,000	–	–	<100	<100	<100	<100	<100	ND	ND	ND	600	ND	<100	ND	NA	NA	NA	NA
Apr-90	<25	7,500	–	–	<25	<50	55	45	<25	ND	ND	ND	1,100	ND	<25	ND	NA	NA	NA	NA
Jan-90	<100	16,000	–	–	<100	<100	<100	<100	<100	ND	ND	ND	1,800	ND	<100	ND	NA	NA	NA	NA
Jan-90	<100	15,000	–	–	<100	<100	<100	<100	<100	ND	ND	ND	1,600	ND	<100	ND	NA	NA	NA	NA
Jan-90	<20	15,000	–	–	<20	<20	<90	<20	<20	ND	ND	ND	1,600	ND	<20	ND	NA	NA	NA	NA
Oct-89	<50	13,000	–	–	<50	<50	<50	<50	<50	–	ND	–	3,400	ND	<50	–	–	–	–	–
Aug-89	<50	13,000	–	–	<50	<50	200	<50	<50	–	ND	–	1,500	ND	<50	–	–	–	–	–
May-89	13	14,000	–	–	10.3	<0.2	320	80	10	–	ND	–	1,900	ND	<0.2	–	–	–	–	–
May-89	<50	13,000	–	–	<50	<50	250	<50	<50	–	ND	–	1,700	ND	<50	–	–	–	–	–
Feb-89	<250	9,300	–	–	<250	<250	<250	<250	<250	–	ND	–	550	ND	<250	–	–	–	–	–
Nov-88	<50	12,000	–	–	<50	<50	200	50	<50	–	ND	–	1,400	ND	<50	–	–	–	–	–
Aug-88	<100	16,000	–	–	<100	<100	300	<100	<100	–	ND	–	2,300	ND	<100	–	–	–	–	–
May-88	<50	7,100	–	–	<50	<50	100	<50	<50	–	ND	–	640	ND	<50	–	–	–	–	–
Jan-88	<100	10,000	–	–	<100	<100	<100	<100	<100	–	ND	–	3,200	ND	<100	–	–	–	–	–
Oct-87	<50	6,700	–	–	<50	<50	60	<50	<50	–	ND	–	1,700	ND	<50	–	–	–	–	–
Jun-87	<25	4,200	–	–	<25	<25	<25	<25	<25	–	ND	–	460	ND	<25	–	–	–	–	–
Apr-87	<10	2,000	–	–	<10	<10	<10	66	<10	–	ND	–	360	ND	<10	–	–	–	–	–
Jan-87	<50	9,500	–	–	<50	<50	<50	<50	<50	–	ND	–	700	ND	<50	–	–	–	–	–
Sep-86	130	3,600	–	–	<25	<25	<25	<25	<25	–	ND	–	1,100	ND	<25	–	–	–	–	–
Jul-86	<1.0	6,800	–	–	<1.0	<1.0	44	54	<1.0	–	ND	–	1,600	ND	<1.0	–	–	–	–	–
Jul-86	<25	5,400	–	–	<25	<25	<25	<25	<25	–	ND	–	2,700	ND	<25	–	–	–	–	–

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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-11C ZB2																				
Oct-13	<2.5	460	35	0.68 J		4.8	<2.5	2.4 J	<2.5		<5.0	<2.5	22	<5.0	<2.5	<2.5	NA	NA	NA	NA
Oct-12	<2.5	290	26	<2.5		5.2	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	17	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-11	<2.5	310	22	<2.5	–	6.4	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	16	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-10	<0.50	250	16	<0.50	–	3.7	<0.50	1.1	<0.50	<0.50	<1.0	<0.50	5.5	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	1.7	3.9	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<0.5	18	1.2	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	0.60	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1
Oct-07	<2.5	290	20	<2.5	–	11	<2.5	<2.5	<2.5	<2.5	<5.0	<2.5	14	<5.0	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0
Oct-06	<2.5	330	22	<2.5	–	11	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	13	<2.5	<2.5	<2.5	NA	NA	NA	NA
Oct-05	<0.5	28	1.6	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	0.8	<0.5	<0.5	<0.5	NA	NA	NA	NA
Oct-04	<0.5	27	1.2	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-03	<0.5	17	0.53	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<1.0	<0.5	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-02	<2.5	63	2.6	<2.5	–	<2.5	<2.5	<2.5	<2.5	<2.5	<5.0	<5.0	<2.5	<10	<2.5	<2.5	NA	NA	NA	NA
Oct-01	<5.0	300	5.7	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	10	<5.0	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<30	320	<30	<30	–	<30	<30	<30	<30	<30	ND	ND	<30	ND	<30	<30	NA	NA	NA	NA
Oct-99	<5.0	290	<5.0	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-98	<10	270	<10	<10	–	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Oct-98 Dup	<2.0	160	<2.0	<2.0	–	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	4.4	ND	<2.0	ND	NA	NA	NA	NA
Oct-97	<1.0	36	2.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-96	<0.5	37	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	54	–	–	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	2.1	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	110	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<0.5	210	–	–	2.3	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	7.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	150	–	–	9.3	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<10	1,500	–	–	<10	<10	<10	<10	<10	ND	ND	ND	<10	ND	<10	ND	NA	NA	NA	NA
Jan-92	<5.0	1,000	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	67	ND	<5.0	ND	NA	NA	NA	NA
Oct-91	<5.0	960	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	28	ND	<5.0	ND	NA	NA	NA	NA
Jul-91	<2.0	800	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	42	ND	<2.0	ND	NA	NA	NA	NA
Apr-91	<2.0	270	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	18	ND	<2.0	ND	NA	NA	NA	NA
Jan-91	<2.0	290	–	–	4.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	10	ND	<2.0	ND	NA	NA	NA	NA
Oct-90	<2.0	330	–	–	16	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	16	ND	<2.0	ND	NA	NA	NA	NA
Jul-90	<5.0	330	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	7.0	ND	<5.0	ND	NA	NA	NA	NA
Apr-90	<5.0	570	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	13	ND	<5.0	ND	NA	NA	NA	NA
Jan-90	<2.0	410	–	–	5.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	15	ND	<2.0	ND	NA	NA	NA	NA
Oct-89	<1.0	500	–	–	40	<1.0	<1.0	<1.0	<1.0	–	ND	–	70	ND	<1.0	–	–	–	–	–
Aug-89	<2.0	680	–	–	72	<2.0	<2.0	<2.0	<2.0	–	ND	–	47	ND	<2.0	–	–	–	–	–
May-89	<2.5	560	–	–	23	<2.5	<2.5	<2.5	<2.5	–	ND	–	49	ND	<2.5	–	–	–	–	–
Feb-89	<25	780	–	–	<25	<25	<25	<25	<25	–	ND	–	42	ND	<25	–	–	–	–	–
Nov-88	<10	740	–	–	<10	<10	<10	<10	<10	–	ND	–	100	ND	<10	–	–	–	–	–
Aug-88	<25	1,800	–	–	87	<25	<25	<25	<25	–	ND	–	230	ND	<25	–	–	–	–	–
May-88	<5.0	1,100	–	–	40	<5.0	<5.0	<5.0	<5.0	–	ND	–	120	ND	<5.0	–	–	–	–	–
Jan-88	<25	2,200	–	–	<25	<25	<25	<25	<25	–	ND	–	430	ND	<25	–	–	–	–	–
Oct-87	<10	1,900	–	–	<10	<10	<10	<10	<10	–	ND	–	140	ND	<10	–	–	–	–	–
Jun-87	<10	2,900	–	–	<10	<10	<10	<10	<10	–	ND	–	230	ND	<10	–	–	–	–	–
Apr-87	11	1,600	–	–	87	<10	<10	12	<10	–	ND	–	210	ND	<10	–	–	–	–	–
Jan-87	<10	2,200	–	–	<10	<10	<10	<10	<10	–	ND	–	260	ND	<10	–	–	–	–	–
Sep-86	62	3,100	–	–	<25	<25	<25	<25	<25	–	ND	–	660	ND	<25	–	–	–	–	–
Jul-86	<1.0	1,800	–	–	<1.0	<1.0	9.7	3.2	<1.0	–	ND	–	710	ND	<1.0	–	–	–	–	–
Jul-86	<25	4,600	–	–	<25	<25	<25	<25	<25	–	ND	–	2,000	ND	<25	–	–	–	–	–
T-12C ZB2																				
Oct-13	<0.50	140	85	1.5		4.7	<0.50	2.3	<0.50		<1.0	0.23 J	2.7	<1.0	<0.50	<0.50	NA	NA	NA	NA
Oct-12	<0.50	9.3	11	<0.50		<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-11	<0.50	7.6	8.7	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-10	<0.50	6.3	4.2	<0.50	–	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-09	<0.50	170	53	1.2	–	3.8	<0.50	1.7	<0.50	<0.50	<1.0	<0.50	3.4	<1.0	<0.50	<0.50	<0.50	<0.50	<0.50	<1.0
Oct-08	<2	170	65	<2	–	4.7	<2	<2	<2	<2	<4	<2	3.7	<4	<2	<2	<2	<2	<2	<4
Oct-07	<2.0	210	19	<2.0	–	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	5.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0
Oct-06	<2.0	210	37	<2.0	–	3.1	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	5.7	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-05	<2.0	180	39	<2.0	–	4.3	<2.0	<2.0	<2.0	<2.0	<2.0	<4.0	5.4	<2.0	<2.0	<2.0	NA	NA	NA	NA
Oct-04	<2.0	240	50	<2.0	–	4.2	<2.0	<2.0	<2.0	<2.0	<4.0	<4.0	7.6	<8.0	<2.0	<2.0	NA	NA	NA	NA
Oct-03	<5.0	210	61	<5.0	–	6.2	<5.0	<5.0	<5.0	<5.0	<10	<10	7.8	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-02	<1.0	180	17	1.4	–	1.9	<1.0	1.7	<1.0	<1.0	<2.0	<2.0	2.6	<4.0	<1.0	<1.0	NA	NA	NA	NA
Oct-01	<5.0	150	14	<5.0	–	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<20	<20	<5.0	<5.0	NA	NA	NA	NA
Oct-00	<10	160	14	<10	–	<10	<10	<10	<10	<10	ND	ND	<10	ND	<10	<10	NA	NA	NA	NA
Oct-99	<2.0	130	18	<2.0	–	2.6	<2.0	<2.0	<2.0	ND	ND	ND	2.7	ND	<2.0	ND	NA	NA	NA	NA
Oct-98	<5.0	140	<5.0	<5.0	–	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-98 Dup	<2.0	110	5.6	<2.0	–	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	2.2	ND	<2.0	ND	NA	NA	NA	NA
Oct-97	<2.5	150	<2.5	<2.5	–	<2.5	<2.5	<2.5	<2.5	ND	ND	ND	<2.5	ND	<5.0	ND	NA	NA	NA	NA
Oct-96	<0.5	120	2.4	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	2.8	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	100	–	–	110	5.7	<1.0	<1.0	<1.0	ND	ND	ND	5.7	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<5.0	130	–	–	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-93	<5.0	210	–	–	<5.0	<10	<5.0	<5.0	<5.0	ND	ND	ND	6.0	ND	<5.0	ND	NA	NA	NA	NA
Oct-92	<0.5	130	–	–	2.0	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<2.0	430	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	<2.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-92	<3.0	410	–	–	<3.0	<3.0	<3.0	<3.0	<3.0	ND	ND	ND	10	ND	<3.0	ND	NA	NA	NA	NA
Oct-91	<1.0	250	–	–	10	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	11	ND	<1.0	ND	NA	NA	NA	NA
Jul-91	<1.0	240	–	–	19	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	16	ND	<1.0	ND	NA	NA	NA	NA

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Former TRW Microwave Facility
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Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-12C ZB2 (continued)																				
Apr-91	<2.0	290	–	–	6.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	7.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-91	<2.0	290	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	4.0	ND	<2.0	ND	NA	NA	NA	NA
Oct-90	<2.0	350	–	–	2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	14	ND	<2.0	ND	NA	NA	NA	NA
Jul-90	<2.0	460	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	13	ND	<2.0	ND	NA	NA	NA	NA
Apr-90	<2.0	390	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	9.0	ND	<2.0	ND	NA	NA	NA	NA
Jan-90	<2.0	440	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	ND	ND	ND	21	ND	<2.0	ND	NA	NA	NA	NA
Oct-89	<2.0	410	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	–	ND	–	17	ND	<2.0	–	–	–	–	–
Aug-89	<2.0	350	–	–	<2.0	<2.0	<2.0	<2.0	<2.0	–	ND	–	17	ND	<2.0	–	–	–	–	–
Aug-89	<10	260	–	–	<10	<20	<10	<10	<10	–	ND	–	NA	ND	NA	–	–	–	–	–
36DD ZB2																				
Oct-13	<0.5	<0.5	11	0.9	–	1.3	NA	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-12	<0.5	3.2	24	1.8	–	3.3	NA	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-11	<0.5	2.6	10	1.9	–	5.5	NA	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-10+	<0.5	<0.5	14	0.7	–	2.2	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-09+	<0.5	1.3	35	1.8	–	2.5	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-08+	<0.5	1.6	24	1.1	–	1.6	<0.5	<0.5	<0.5	NA	NA	NA	<2.0	NA	<0.5	NA	NA	NA	NA	NA
Oct-07+	<0.5	1.5	22	0.8	–	3.6	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-06+	<0.5	0.8	22	1.2	–	6.2	<0.5	<0.5	0.5	ND	ND	ND	<0.5	ND	<0.5	<0.5	NA	NA	NA	NA
Oct-05+	<0.5	<0.5	73	2.5	–	12	<0.5	0.5	0.7	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-04+	<0.5	0.5	31	2.2	–	4.5	<0.5	<0.5	0.5	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-03+	<0.5	1.2	29	1.9	–	4.6	<0.5	<0.5	<0.5	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-02+	<0.5	8.1	130	2.2	–	1.3	<0.5	0.7	1.0	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-01+	<0.5	11	110	1.6	–	<0.5	<0.5	0.8	1.1	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-00+	<0.5	6.4	100	1.4	–	<1.0	<0.5	<0.5	1.0	ND	ND	ND	<1.0	ND	<0.5	ND	NA	NA	NA	NA
Apr-98+	<1.2	11	42	<1.2	–	<1.2	NA	<1.2	<1.2	ND	ND	ND	<5.0	ND	<1.2	ND	NA	NA	NA	NA
Oct-99	<1.0	10	77	1.2	–	<1.0	<1.0	<1.0	1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-97+	<0.5	13	49	1.1	–	<0.5	<0.5	0.5	0.7	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-96	<0.5	22	29	1.4	–	<0.5	<0.5	<0.5	0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	42	–	–	15.1	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<0.5	58	–	–	12	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<0.5	38	–	–	8.7	<1.0	<0.5	<0.5	0.6	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	29	–	–	5.8	<1.0	<0.5	<0.5	0.6	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<0.5	45	–	–	11	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	<0.5	37	–	–	23	<0.5	<0.5	<0.5	0.9	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	36	–	–	21	<0.5	<0.5	<0.5	0.8	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-91	<0.5	29	–	–	22	<0.5	<0.5	<0.5	0.8	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<0.5	27	–	–	18	<0.5	<0.5	<0.5	0.6	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-91	<0.5	26	–	–	16	<0.5	<0.5	<0.5	0.6	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	1,100	–	–	16	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-90	<0.5	28	–	–	14	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-90	<0.5	35	–	–	15	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-90	<0.5	57	–	–	20	<0.5	<0.5	<0.5	0.7	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	62	–	–	13	<0.5	<0.5	0.5	1.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Aug-89	<0.5	70	–	–	21	<0.5	<0.5	1.5	3.1	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
May-89	<0.5	68	–	–	18	<0.5	1.1	1	2	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Feb-89	<5.0	72	–	–	16	<5.0	<5.0	<5.0	<5.0	–	ND	–	<5.0	ND	<5.0	–	–	–	–	–
Nov-88	<5.0	85	–	–	25	<5.0	<5.0	<5.0	<5.0	–	ND	–	<5.0	ND	<5.0	–	–	–	–	–
Aug-88	<1.0	72	–	–	43	<1.0	1.6	1.4	3.7	–	ND	–	4.7	ND	<1.0	–	–	–	–	–
May-88	<0.5	68	–	–	40	<0.5	1.5	1.6	5.0	–	ND	–	2.6	ND	<0.5	–	–	–	–	–
Jan-88	<0.5	38	–	–	25	<0.5	1.0	<0.5	3.4	–	ND	–	1.9	ND	<0.5	–	–	–	–	–
Oct-87	<0.5	40	–	–	30	<0.5	1.4	0.7	3.0	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jun-87	<0.5	32	–	–	38	<0.5	<0.5	<0.5	1.8	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Apr-87	<0.5	53	–	–	45	<0.5	2.8	1.3	2.2	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-87	<0.5	26	–	–	16	<0.5	<0.5	<0.5	2.3	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Sep-86	<0.5	20	–	–	23	<0.5	<0.5	<0.5	1.8	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jul-86	<0.5	27	–	–	22	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Apr-86	<0.5	27	–	–	2.4	<0.5	<0.5	<0.5	1.8	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Jan-86	<0.5	31	–	–	24	<0.5	<0.5	<0.5	<0.5	–	ND	–	NA	ND	<0.5	–	–	–	–	–
Oct-85	<0.5	8.6	–	–	17	<0.5	<0.5	<0.5	<0.5	–	ND	–	<0.5	ND	<0.5	–	–	–	–	–
Nov-84	<0.5	5.1	–	–	6.3	NA	<0.5	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Mar-84	NA	11	–	–	NA	NA	NA	NA	NA	–	ND	–	NA	ND	NA	–	–	–	–	–
Aug-83	<1.0	12	–	–	1.7	ND	<1.0	<1.0	<1.0	–	ND	–	<1.0	ND	ND	–	–	–	–	–
May-83	ND	990	–	–	120	ND	ND	ND	ND	–	ND	–	ND	ND	ND	–	–	–	–	–
Apr-83	20	18	–	–	2	ND	18	ND	ND	–	ND	–	ND	ND	ND	–	–	–	–	–

Historic Groundwater Volatile Organic Compound Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well Number/ Dates	PCE (µg/L)	TCE (µg/L)	cis-1,2-DCE (µg/L)	trans-1,2-DCE (µg/L)	Total 1,2-DCE (µg/L)	VC (µg/L)	1,1,1-TCA (µg/L)	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CDM (µg/L)	Freon 11 (µg/L)	Freon 12 (µg/L)	Freon 113 (µg/L)	BFM (µg/L)	1,2-DCB (µg/L)	CBN (µg/L)	BEN (µg/L)	EBN (µg/L)	TOL (µg/L)	XYL (µg/L)
Drinking Water Standard	5	5	6	10	6	0.5	200	6	5	100	150	NE	1200	100	600	70	1	300	150	1750
T-8D ZB4																				
Per Water Board approval, groundwater sampling of well T-8D was suspended in 2002.																				
Oct-01	<0.5	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.0	<2.0	<2.0	<0.5	<0.5	NA	NA	NA	NA
Oct-00	<1.0	<1.0	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	ND	<1.0	<1.0	NA	NA	NA	NA
Oct-99	<1.0	<1.0	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Apr-99	<1.0	<1.0	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-98	<1.0	<1.0	<1.0	<1.0	–	<1.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Apr-98	<0.5	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<2.0	ND	<0.5	ND	NA	NA	NA	NA
Oct-97	<0.5	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<1.0	ND	NA	NA	NA	NA
Apr-97	<0.5	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-96	<0.5	<0.5	<0.5	<0.5	–	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-96	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-95	<1.0	<1.0	–	–	<1.0	<2.0	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	ND	<1.0	ND	NA	NA	NA	NA
Oct-94	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-94	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-93	<0.5	<0.5	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-93	<0.5	<0.5	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	NA	ND	<0.5	ND	NA	NA	NA	NA
Oct-92	<0.5	<0.5	–	–	<0.5	<1.0	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-92	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-92	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-91	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jul-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Apr-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Jan-90	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	ND	<0.5	ND	<0.5	ND	NA	NA	NA	NA
Oct-89	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Aug-89	<1.0	<1.0	–	–	<1.0	<1.0	<1.0	<1.0	<1.0	–	ND	ND	<1.0	ND	<1.0	–	–	–	–	–
May-89	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Feb-89	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Nov-88	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Aug-88	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
May-88	<0.5	0.6	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Jan-88	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Oct-87	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Sep-86	<0.5	2.3	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Jul-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Apr-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	<0.5	ND	<0.5	–	–	–	–	–
Jan-86	<0.5	<0.5	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	NA	ND	<0.5	–	–	–	–	–
Oct-85	<0.5	1.1	–	–	<0.5	<0.5	<0.5	<0.5	<0.5	–	ND	ND	55	ND	<0.5	–	–	–	–	–
Dec-84	<0.5	<0.5	–	–	<0.5	NA	<0.5	NA	NA	–	ND	ND	<0.5	ND	NA	–	–	–	–	–

Notes:
Drinking water standards are Maximum Contaminant Levels (MCLs) as established by the California Department of Health Services, or if no California MCLs have been established, then USEPA MCLs were used.

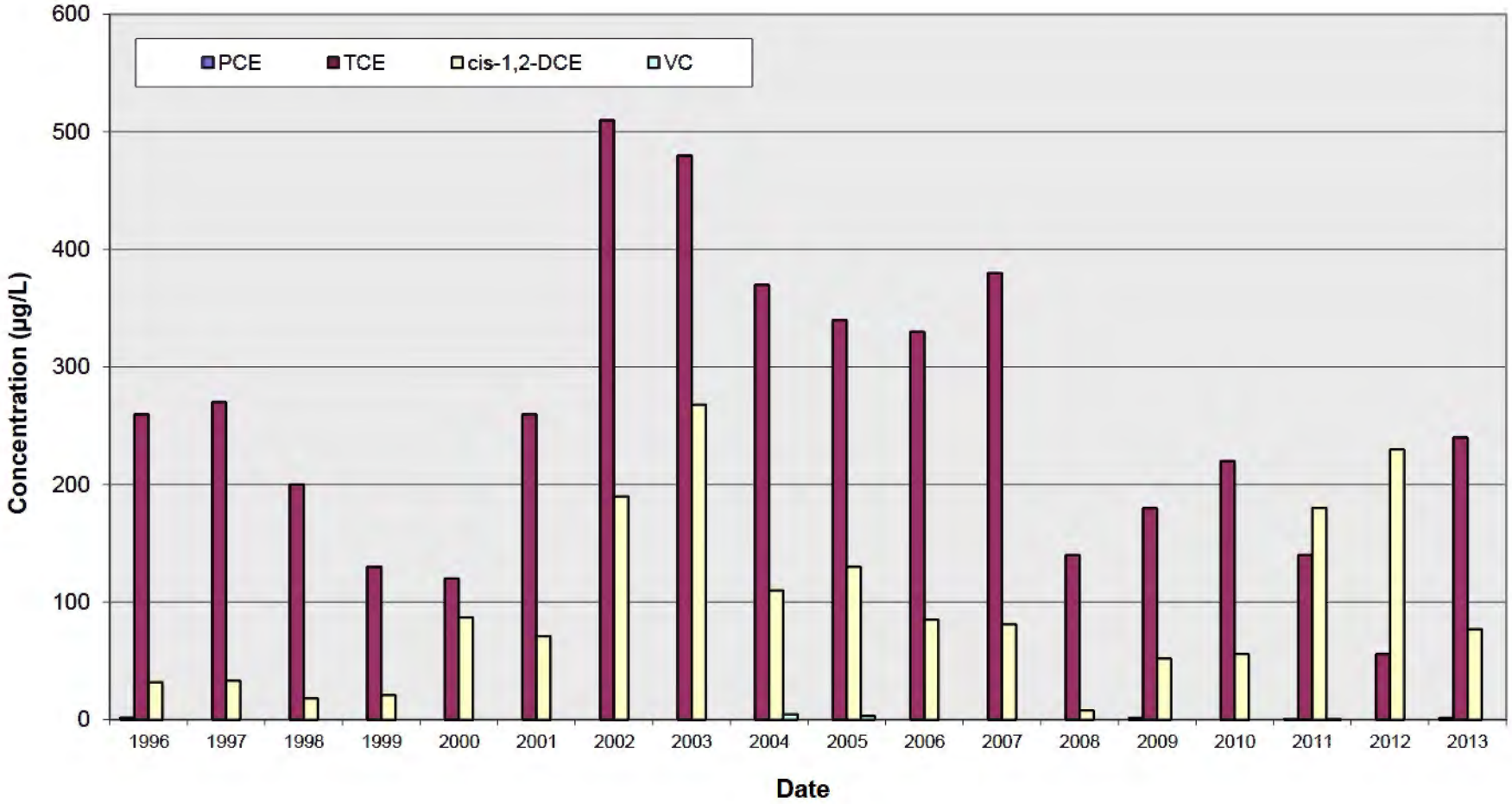
– = Data reported as total 1,2-DCE prior to 1996.
^ = Data not previously reported due to low levels.
< = Not detected at the detection limit shown.
+ = Data provided by AMD.
** = Well resampled in July 1998 due to potential labeling error.
B = Compound was found in the blank and sample.
NA = Not Analyzed
ND = Not Detected
NE = Not Established
µg/L = microgram per liter
Water Board = California Regional Water Quality Control Board - San Francisco Bay Region
(1) - Initial results of 268 µg/L for cis-1,2-DCE was higher than standard of 200 µg/L. When rerun with dilution of 50, the result was <250 µg/L. Initial result reported in table.

1,1,1-TCA = 1,1,1-trichloroethane
1,1-DCA = 1,1-dichloroethane
1,1-DCE = 1,1-dichloroethene
1,2-DCB = 1,2-dichlorobenzene
1,2-DCE = 1,2-dichloroethene
BEN = Benzene
BFM = Bromoform
CBN = Chlorobenzene
CDM = Chlorodibromomethane
EBN = Ethylbenzene
Freon 11 = Trichlorofluoromethane
Freon 12 = Dichlorodifluoromethane
Freon 113 = 1,1,2-trichloro-1,2,2-trifluoroethane
PCE = Tetrachloroethene
TCE = Trichloroethene
TOL = Toluene
VC = Vinyl Chloride
XYL = Total Xylenes

APPENDIX D

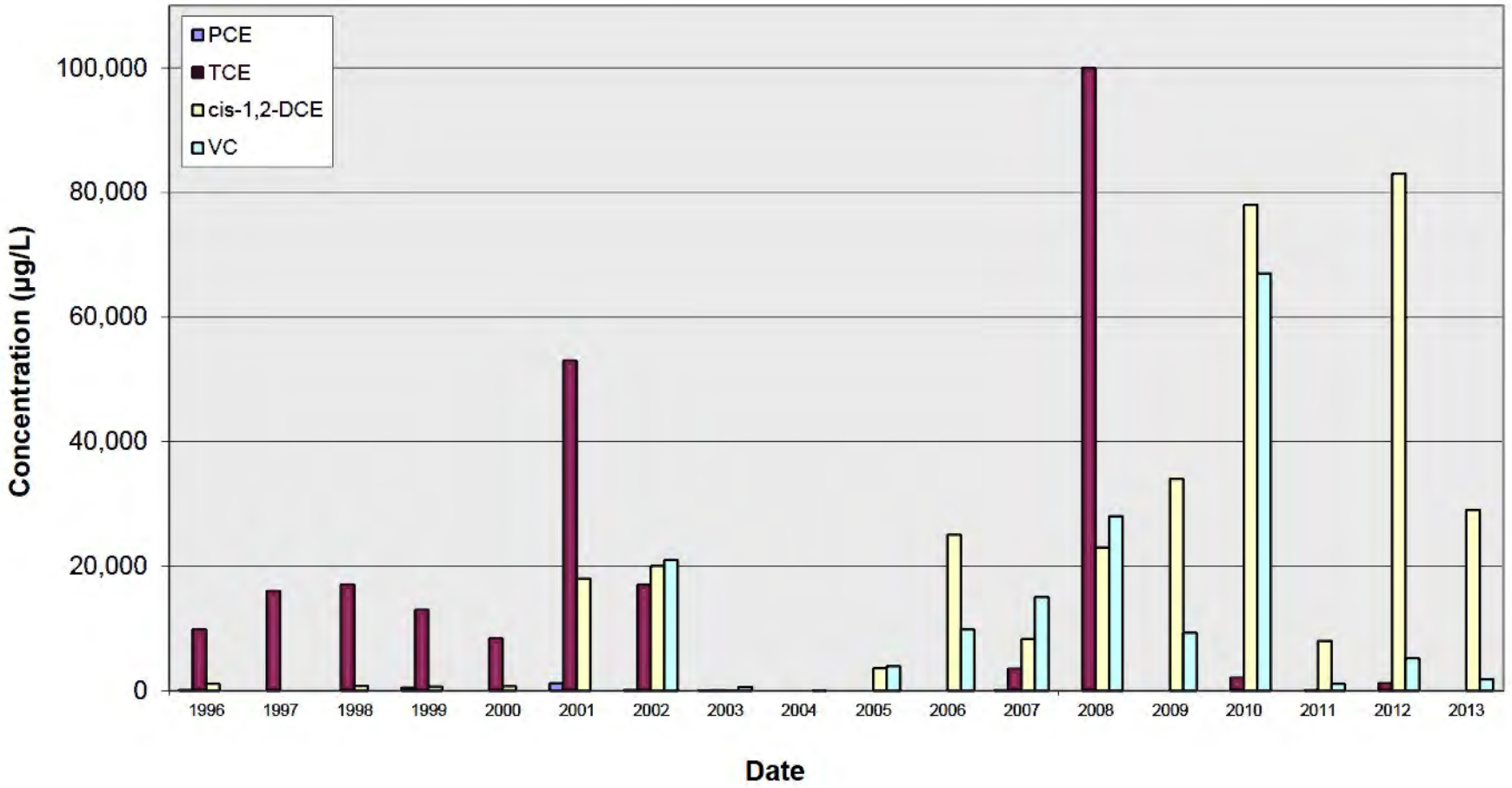
CHLORINATED ETHENE CONCENTRATION TREND PLOTS FOR SELECTED WELLS

Chlorinated Ethene Concentration Trend Plot for Well T-7A



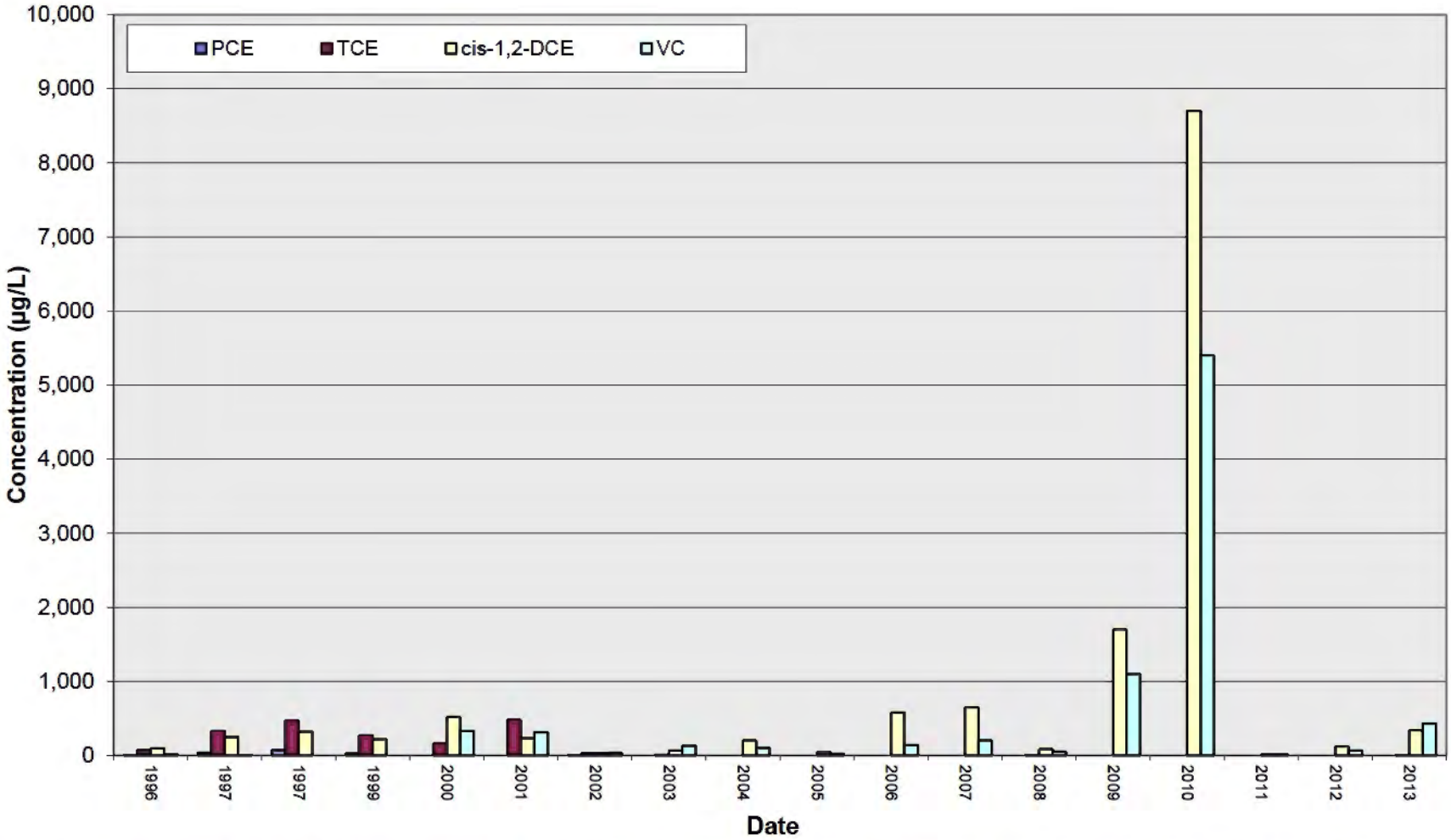
Note: Suspension of groundwater extraction at wells Eductor, T-2A, T-8A, and T-9A occurred on April 6, 2001.
Enhanced anaerobic bioremediaiton program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Eductor Well



Note: Suspension of groundwater extraction at well occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-2A

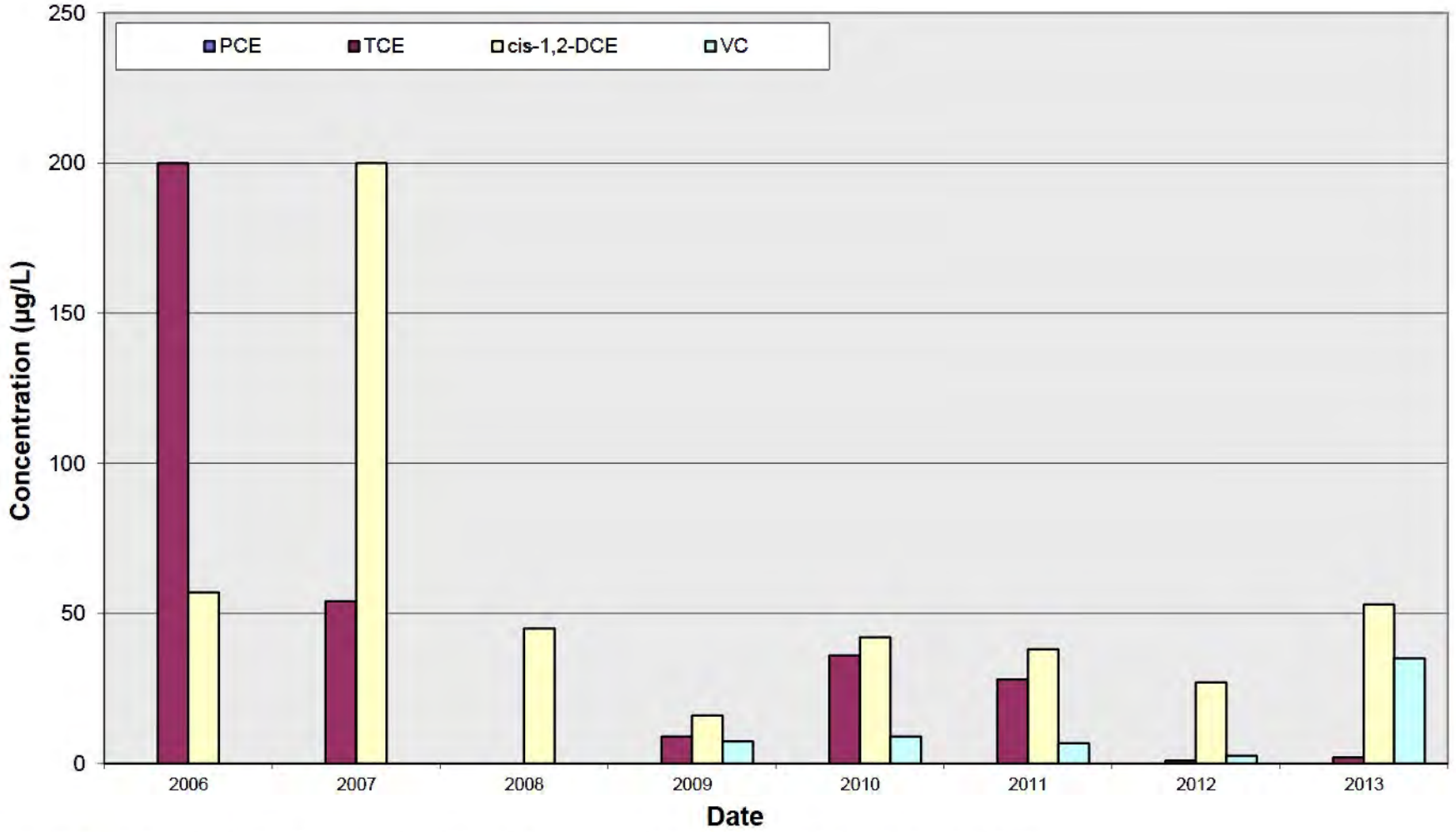


Note: Suspension of groundwater extraction occurend on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-13A

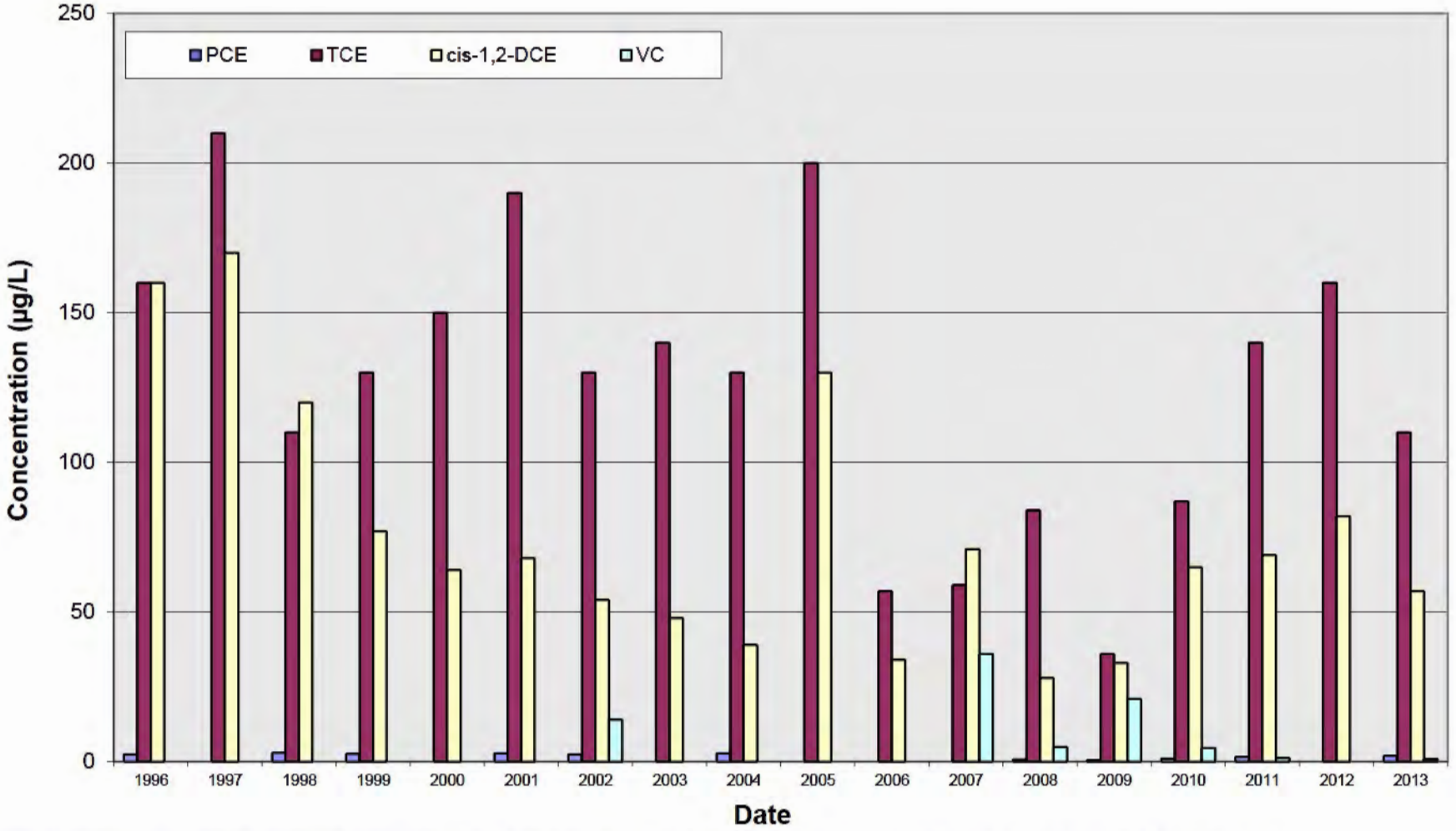
Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-14A



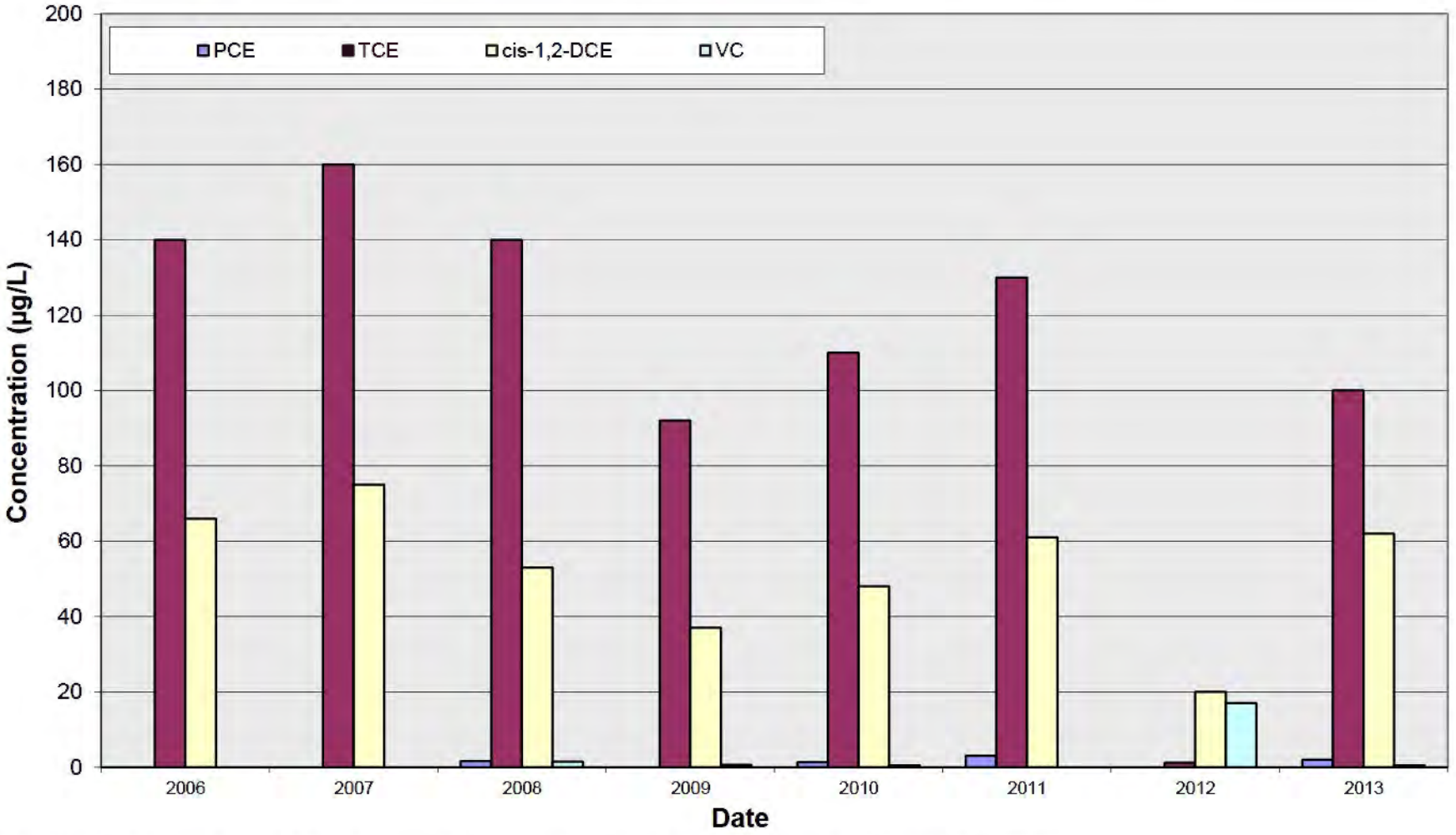
Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-8A



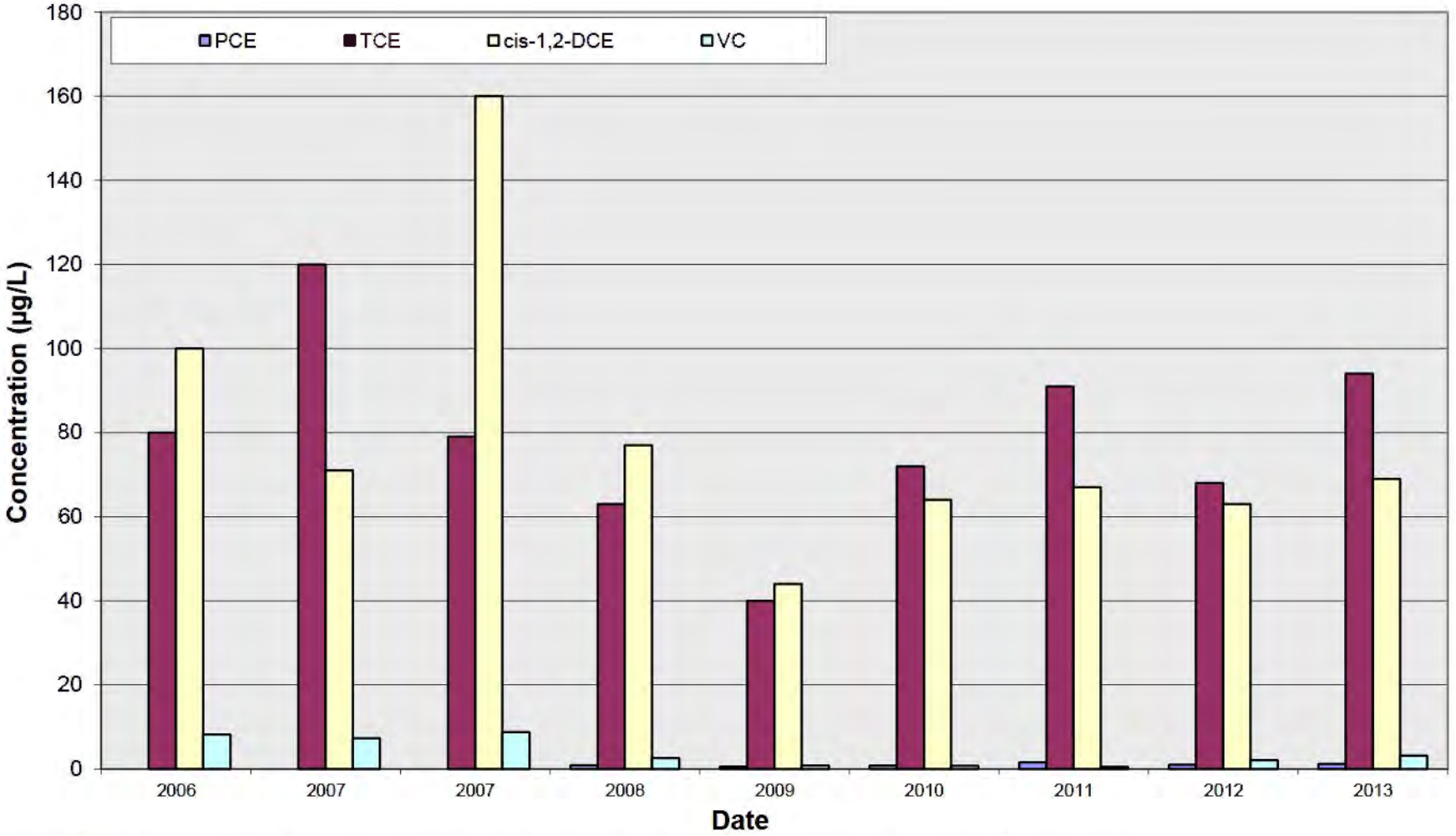
Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-15A



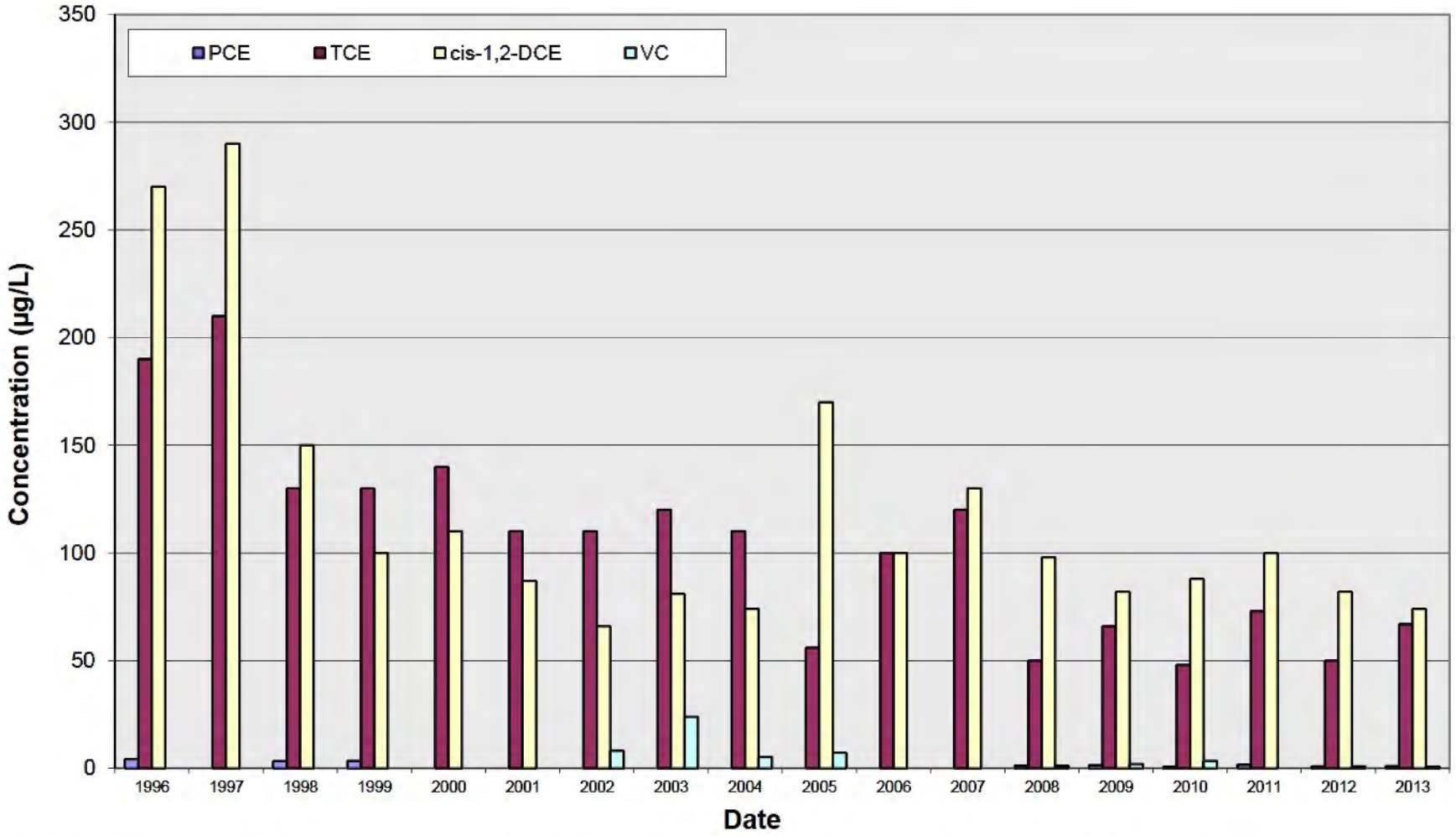
.Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-16A



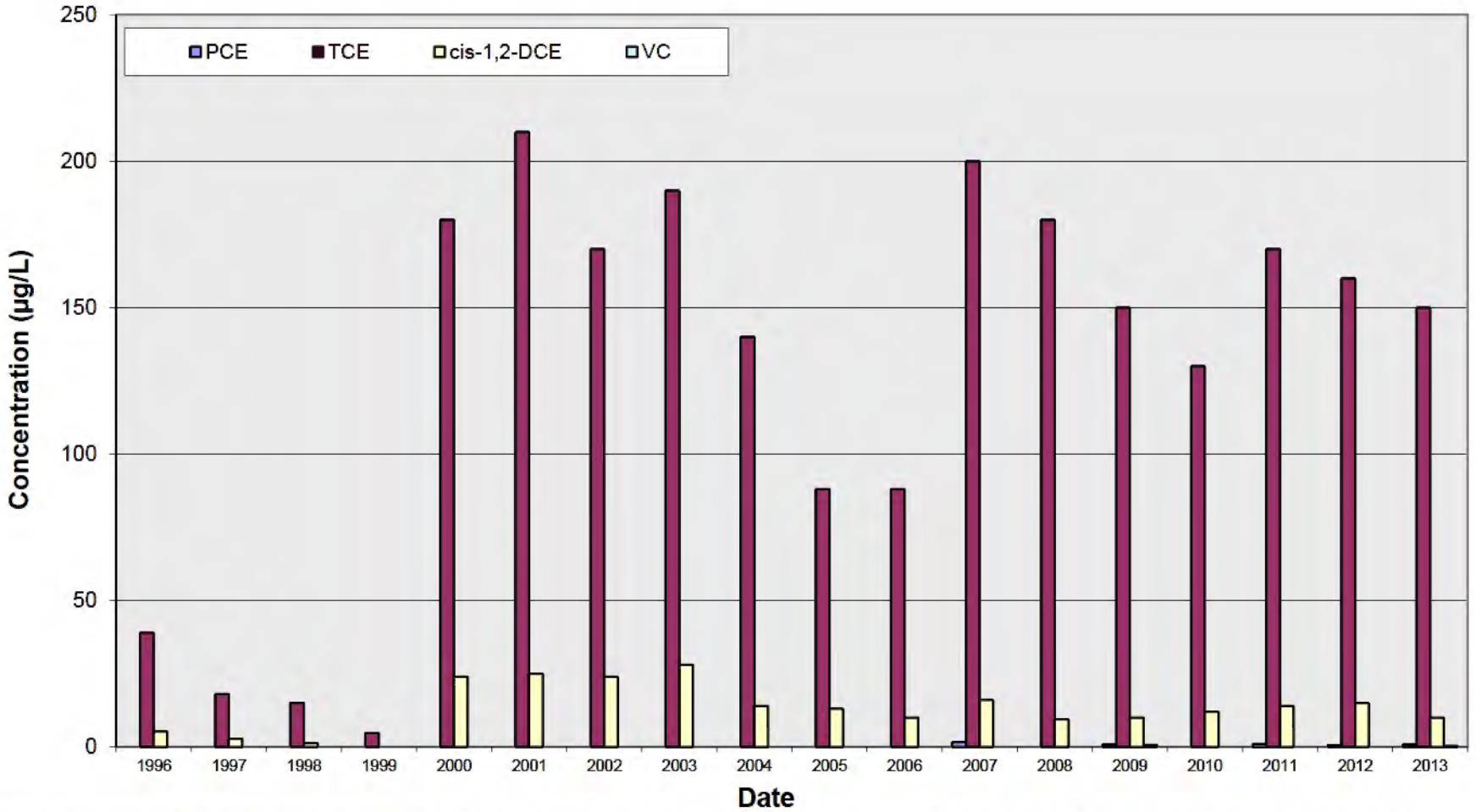
Note: Well installed in August 2005. Enhanced anaerobic reductive dechlorination program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-9A



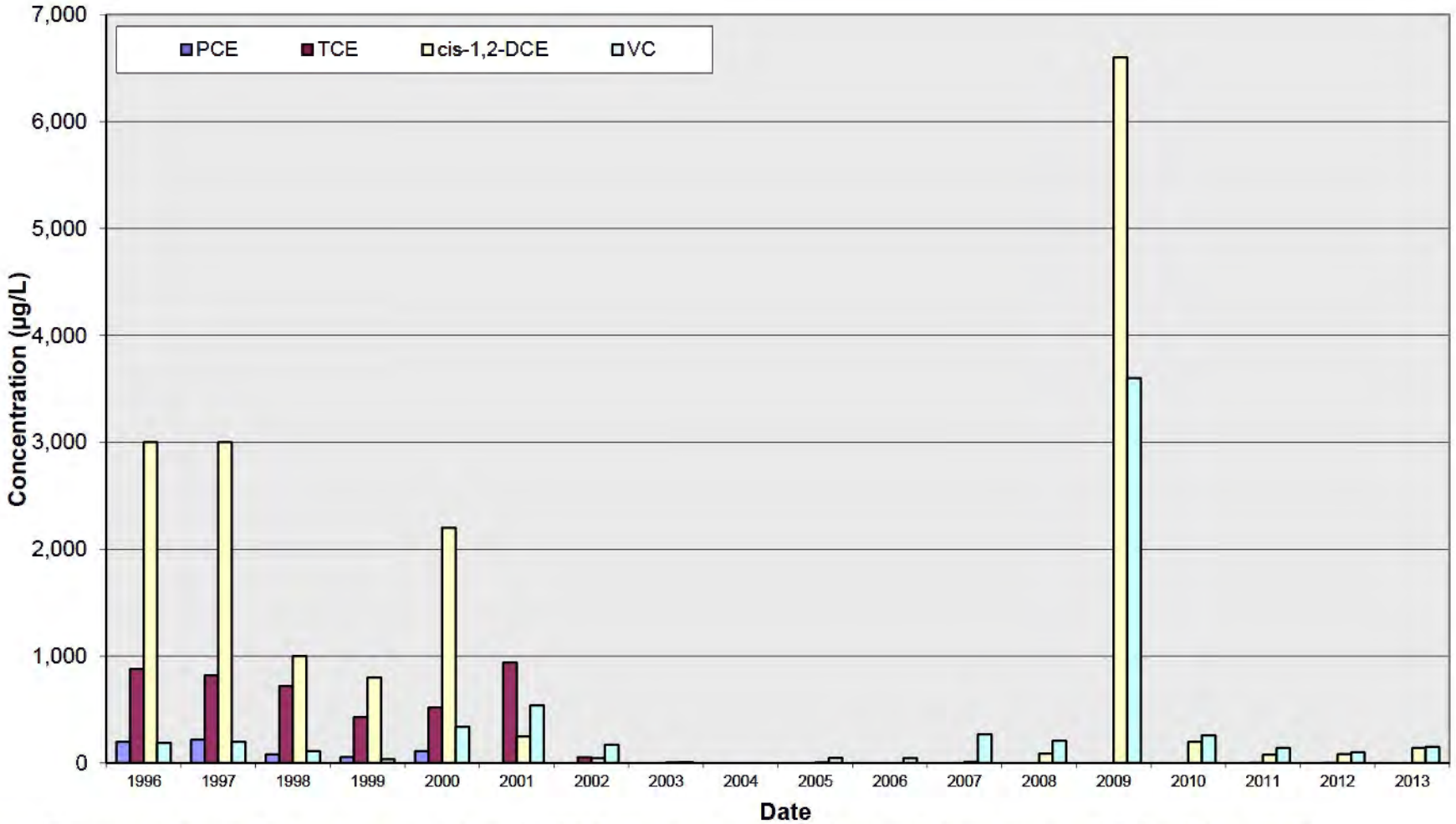
Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-7B



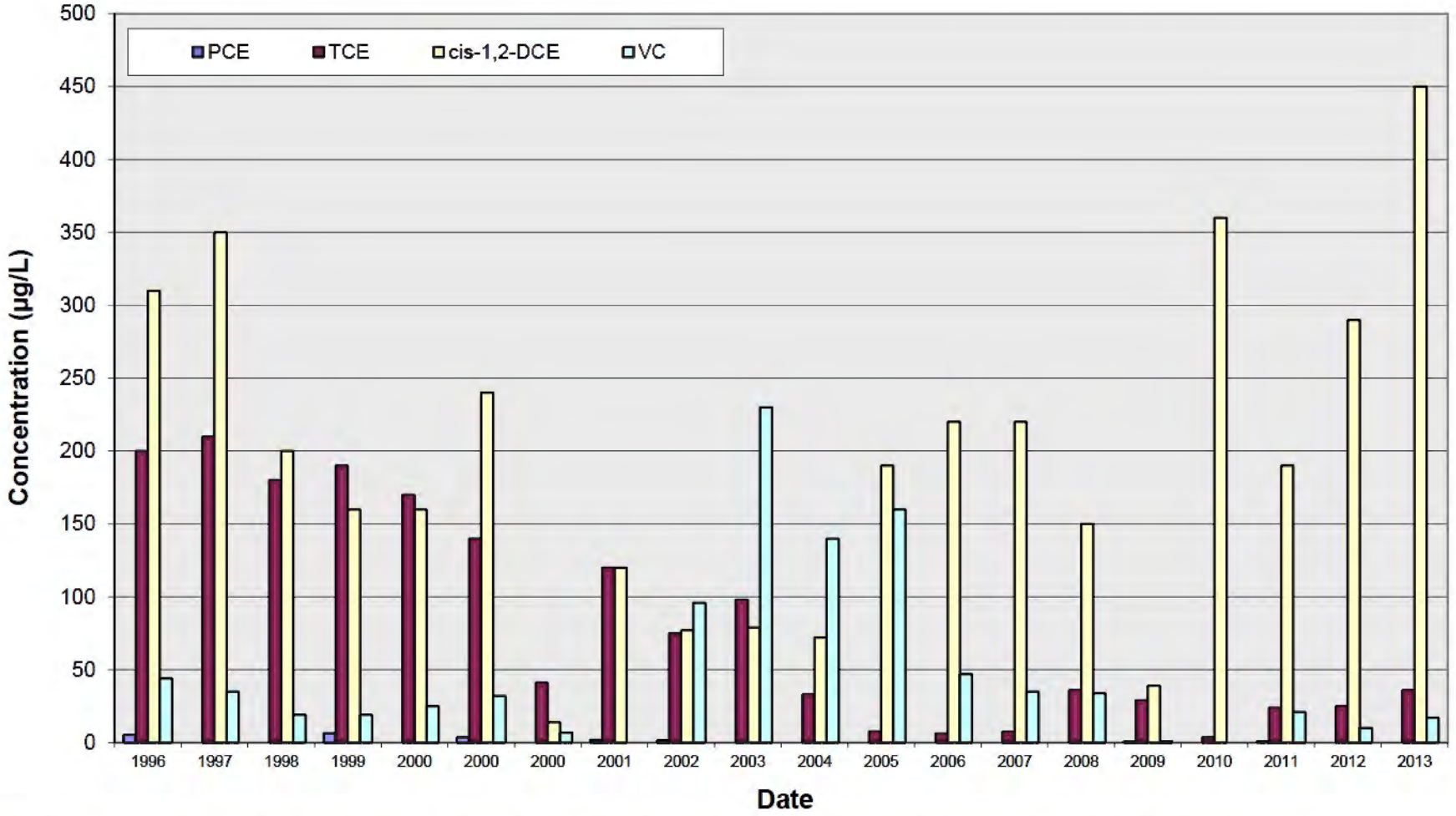
Note: Suspension of groundwater extraction at wells T-2B and T-8B occurred on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-2B



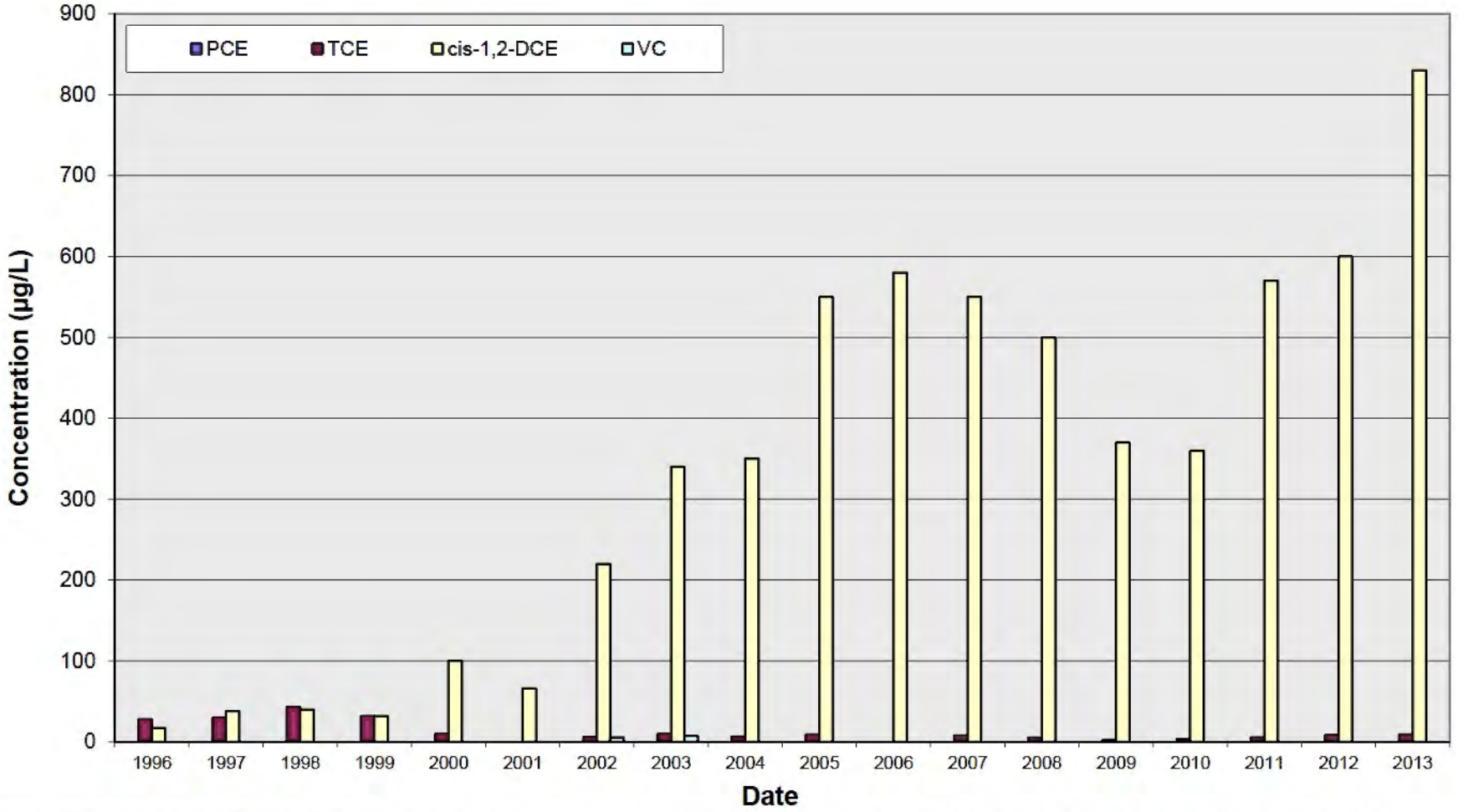
Note: Suspension of groundwater extraction on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-8B



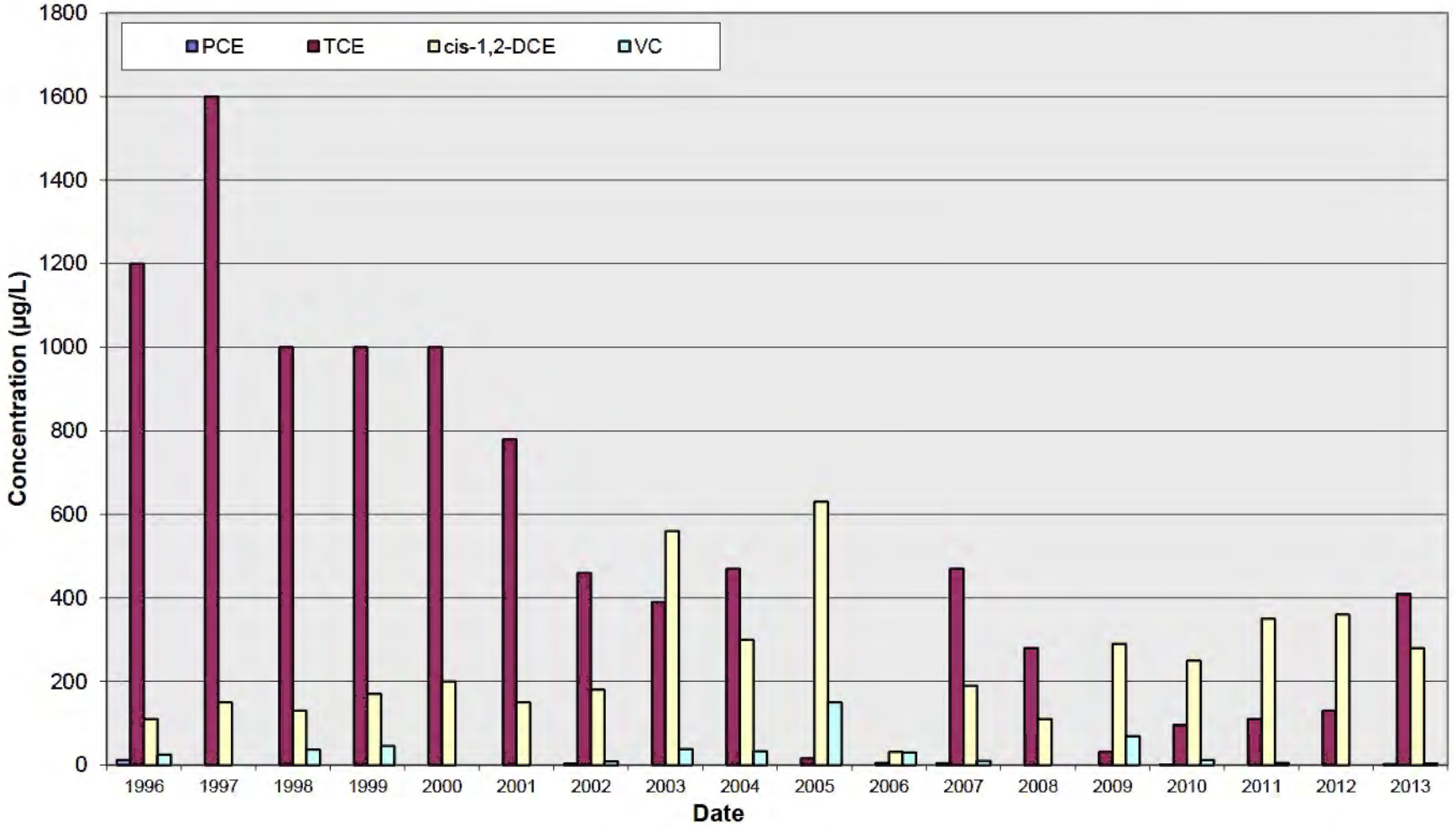
Note: Suspension of groundwater extraction on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-4B



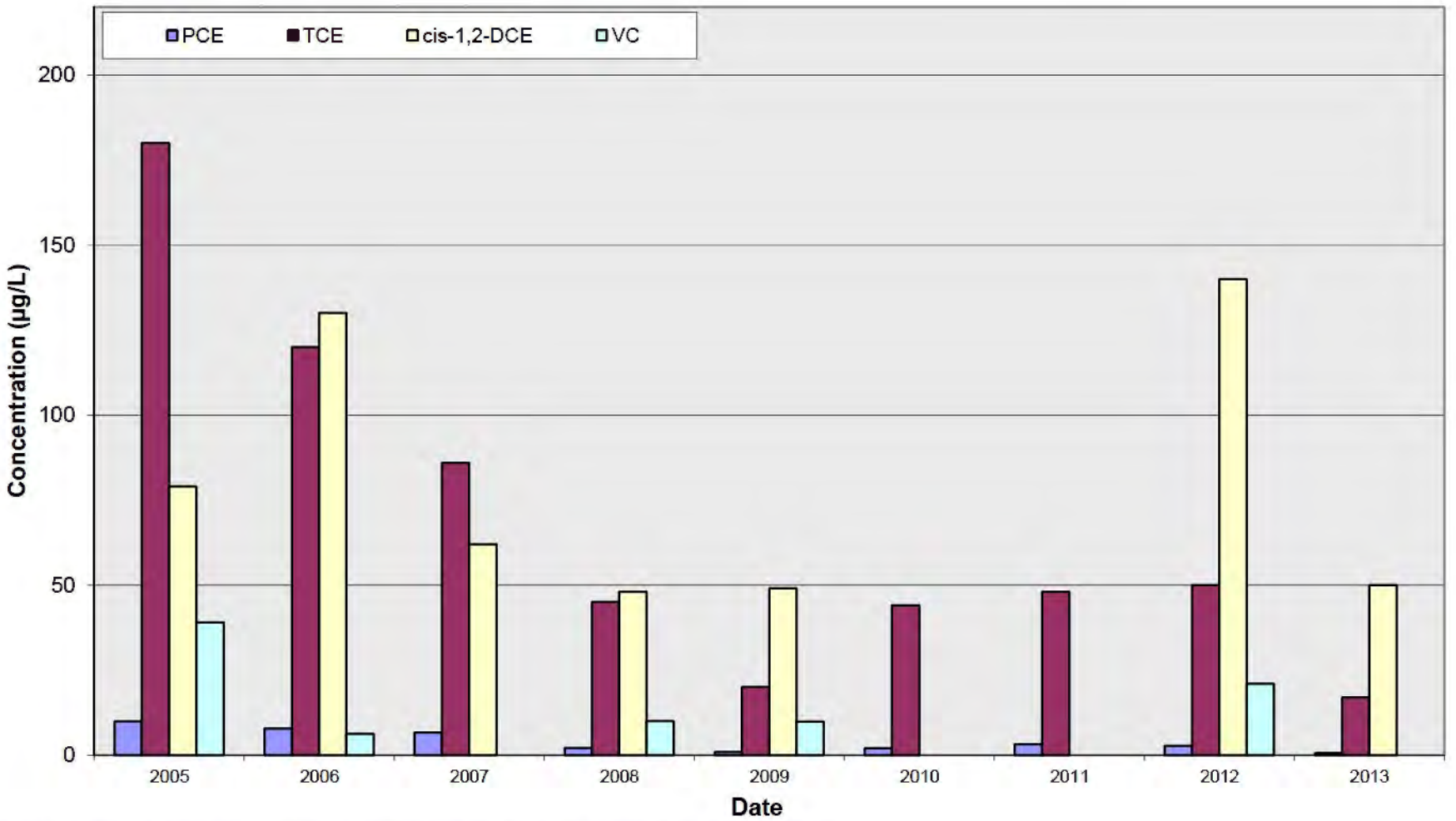
Note: Suspension of groundwater extraction at wells T-2B and T-8B occurred on August 1, 2000. Enhanced anaerobic bioremediation program inititated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-9B



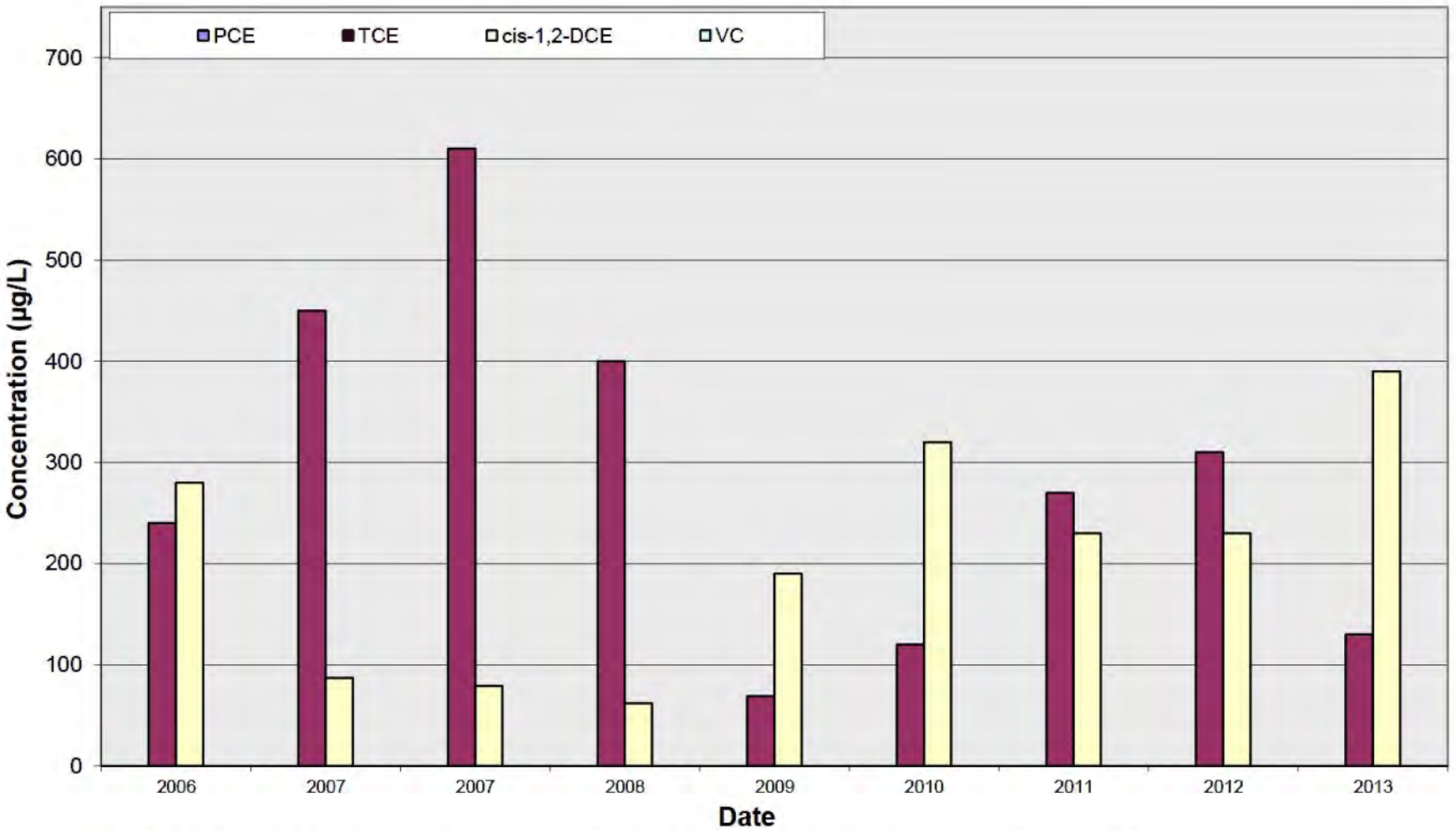
Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Concentration Trend Plot for Well T-10B



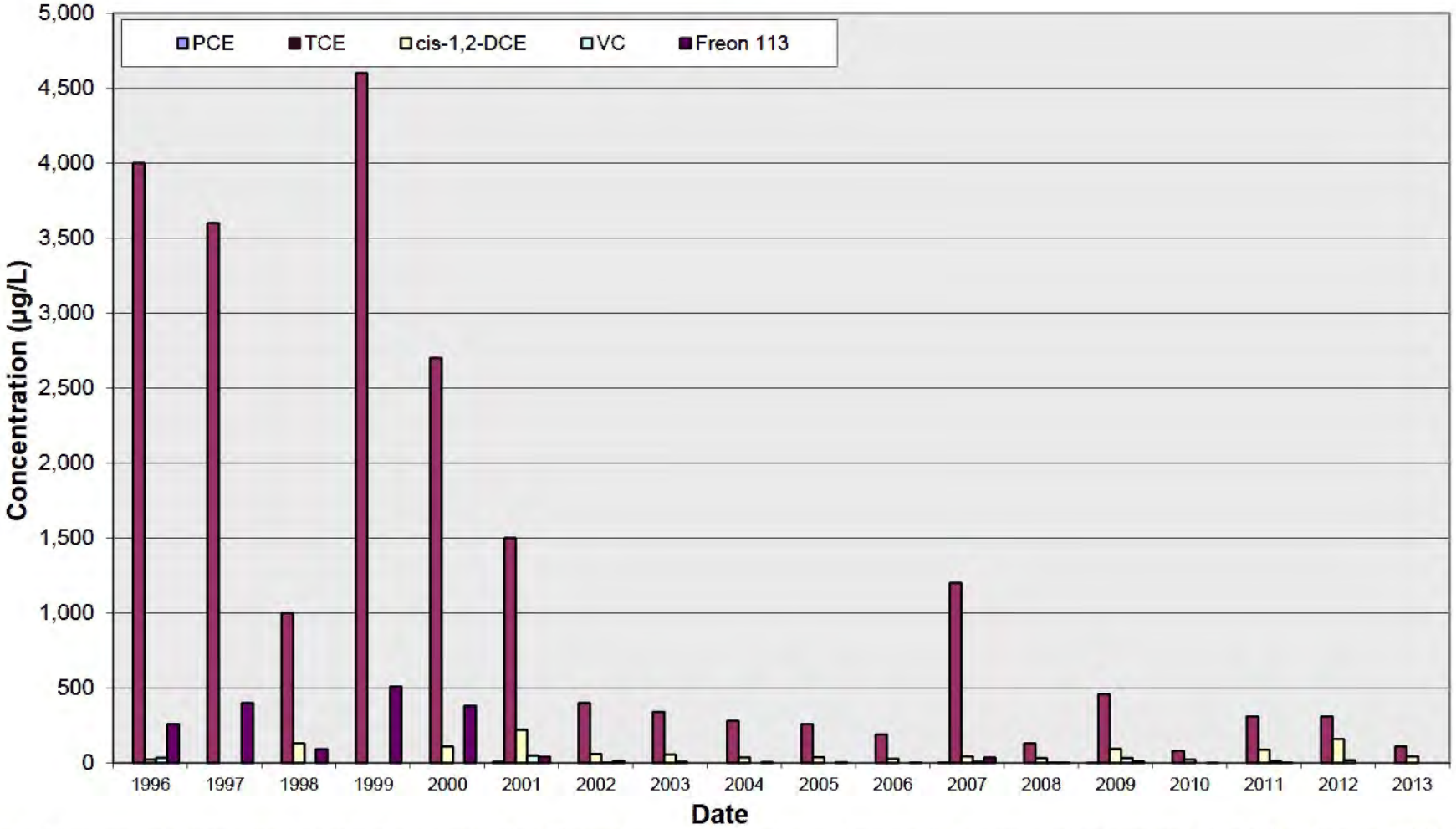
.Note: Enhanced anaerobic reductive dechlorination program initiated in October 2000

Chlorinated Ethene Concentration Trend Plot for Well T-17B



.Note: Well installed in August 2005. Enhanced anaerobic reductive dechlorination program initiated in October 2000

Chlorinated Ethene Concentration Trend Plot for Well T-2C

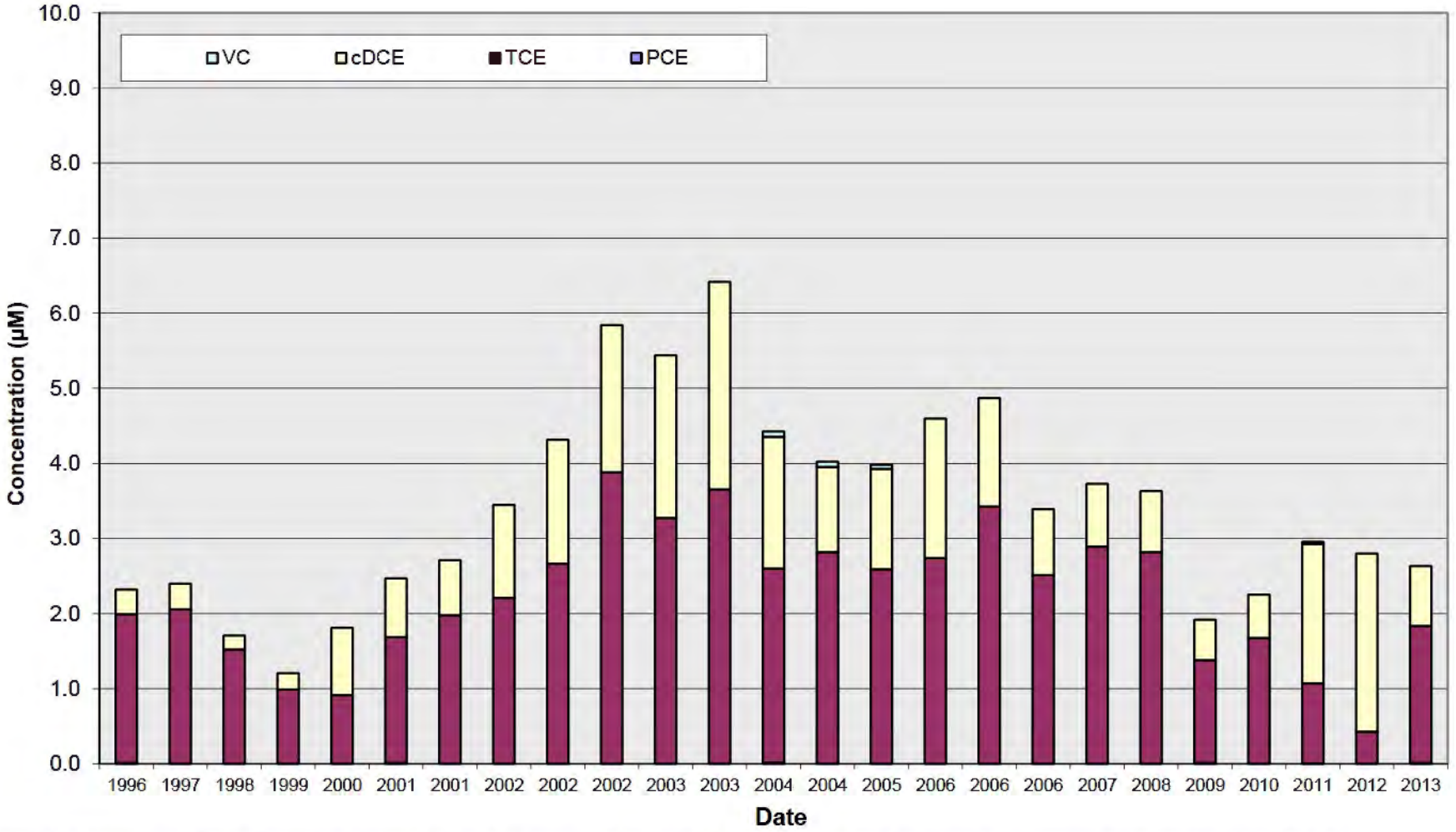


Note: Suspension of groundwater extraction occurred on November 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000.

APPENDIX E

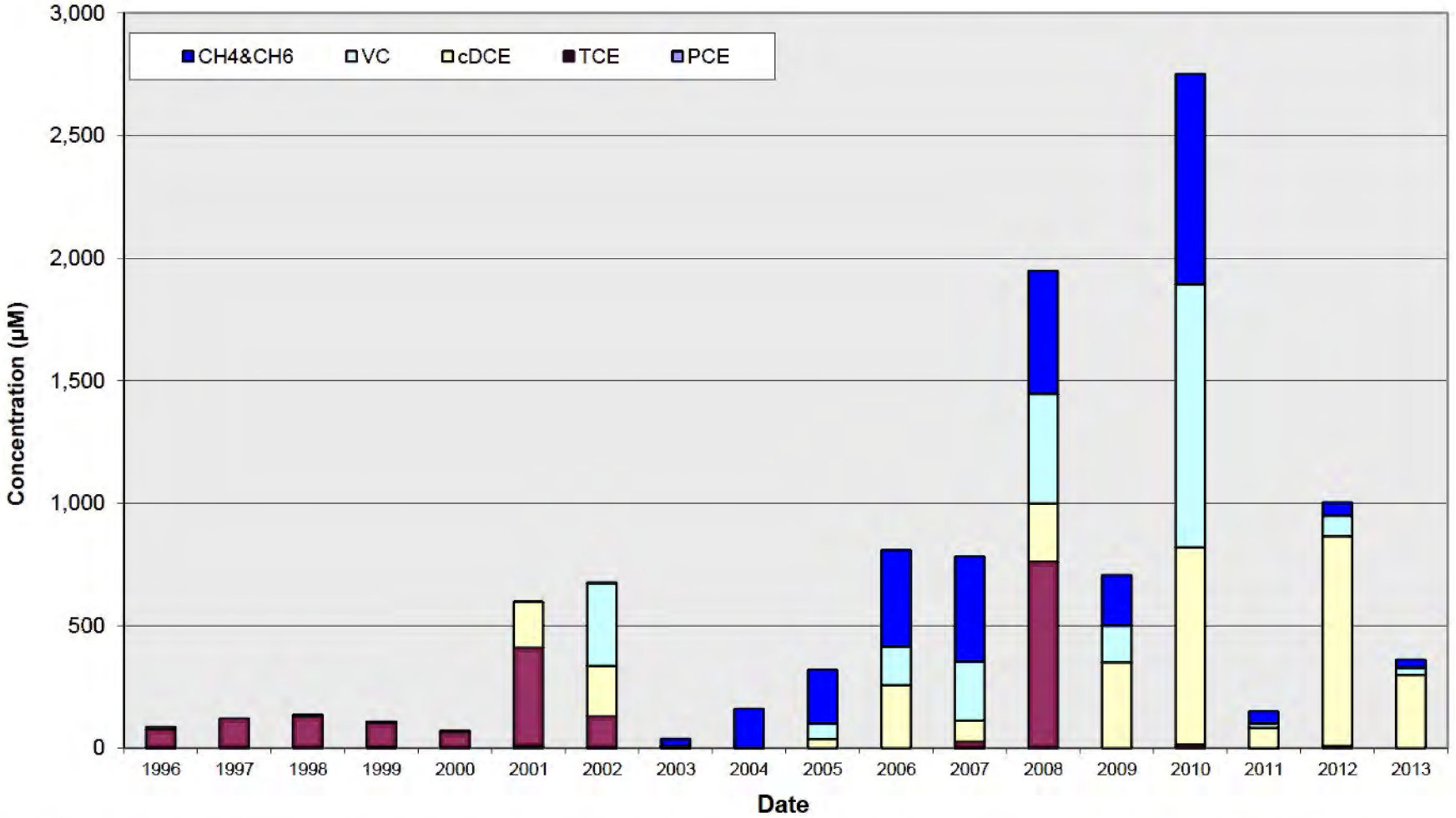
CHLORINATED ETHENE MOLAR CONCENTRATION TREND PLOTS
FOR EAB WELLS

Chlorinated Ethene Molar Concentration Trend Plot for Well T-7A



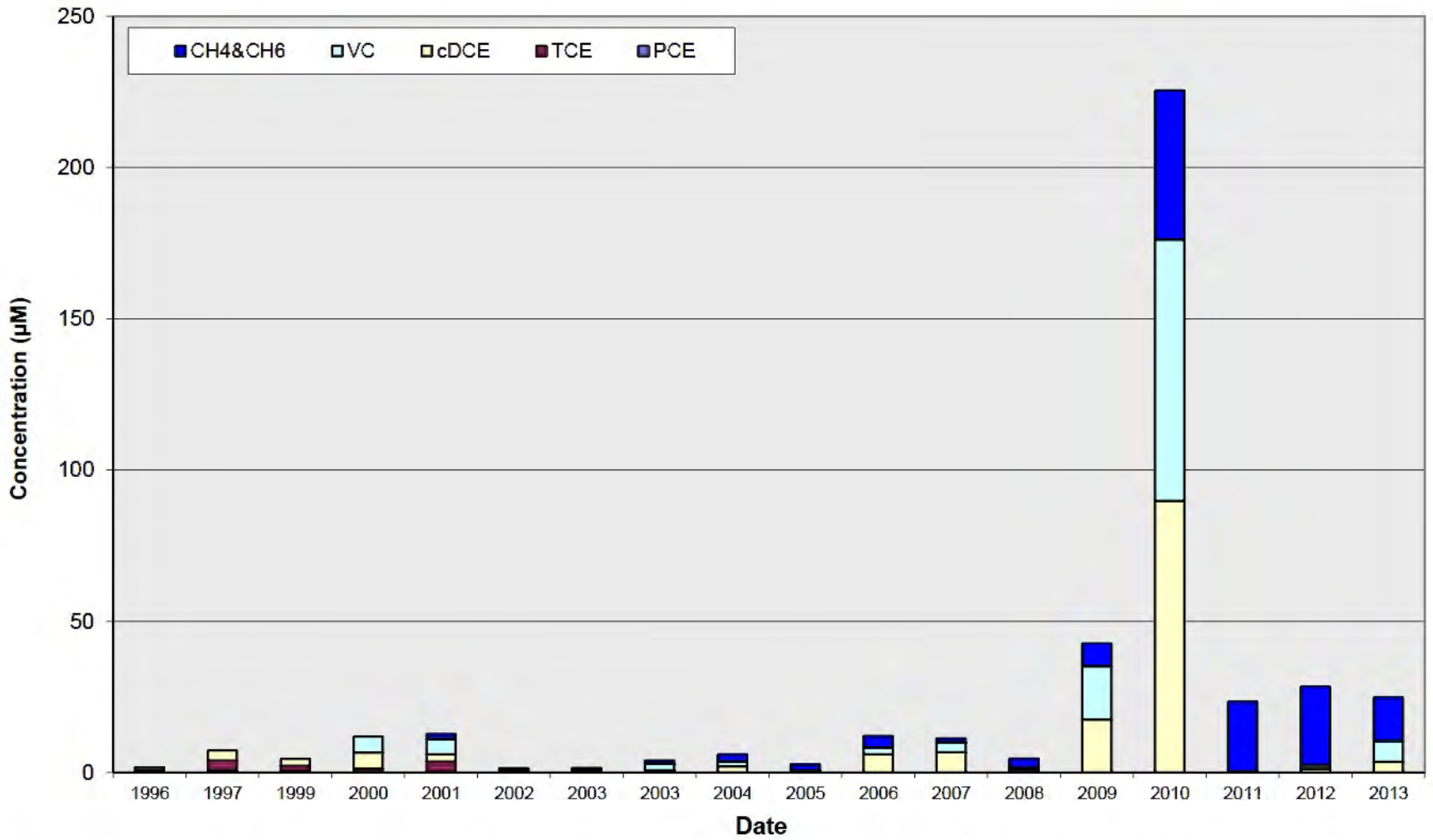
Note: Suspension of groundwater extraction at Eductor occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in .October 2000

Chlorinated Ethene Molar Concentration Trend Plot for Eductor Well



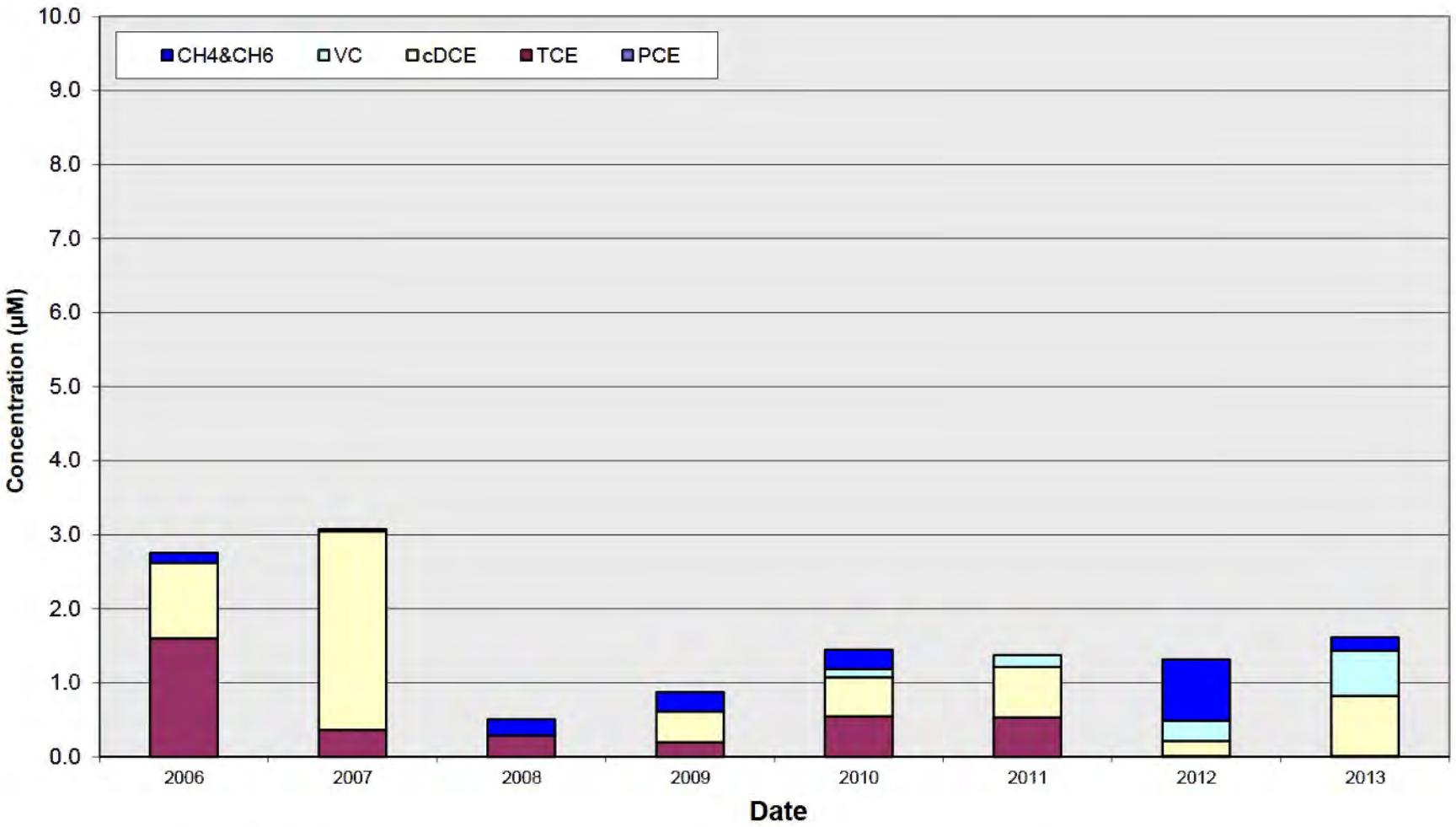
Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-2A



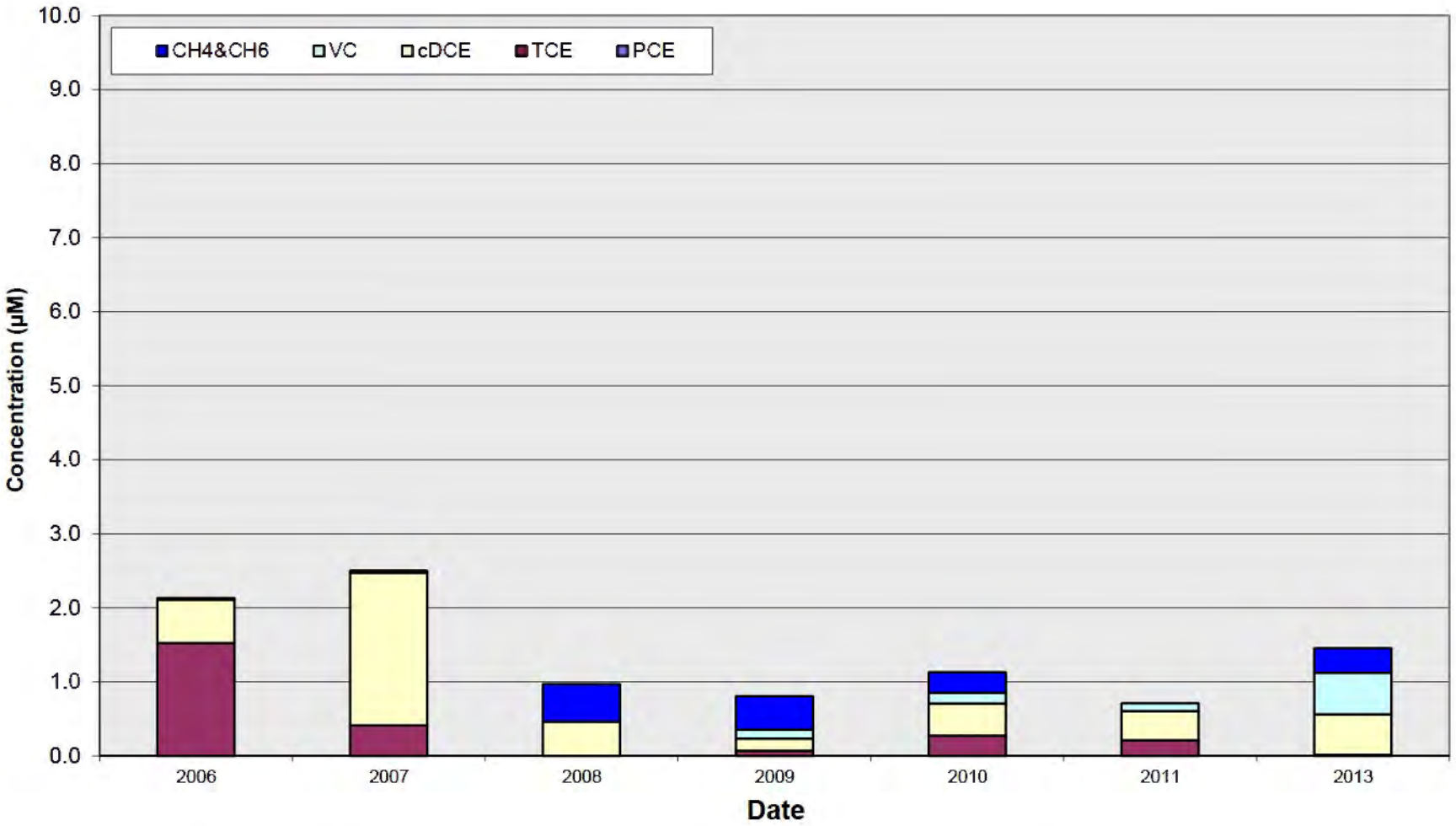
Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-13A



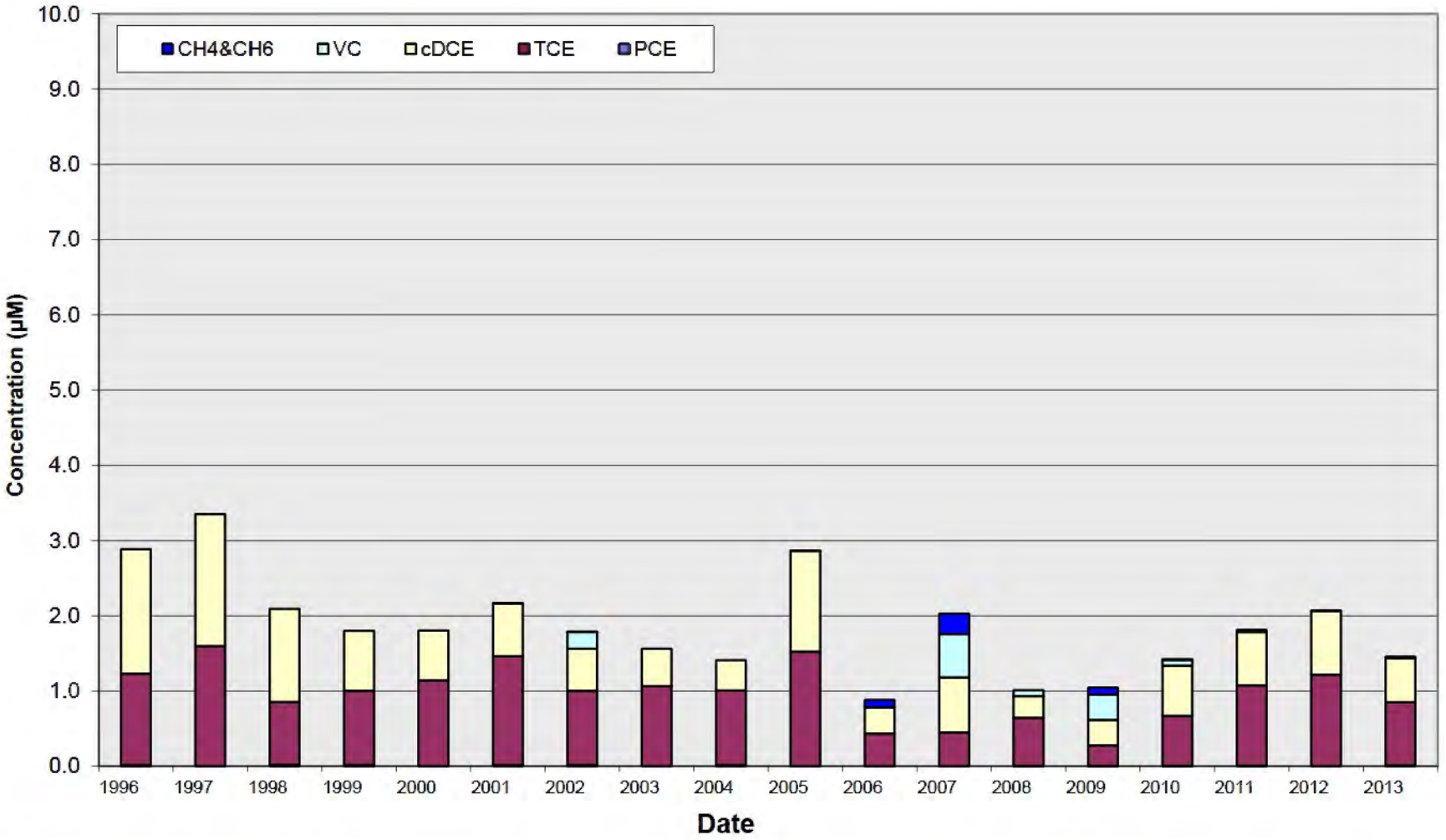
Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-14A



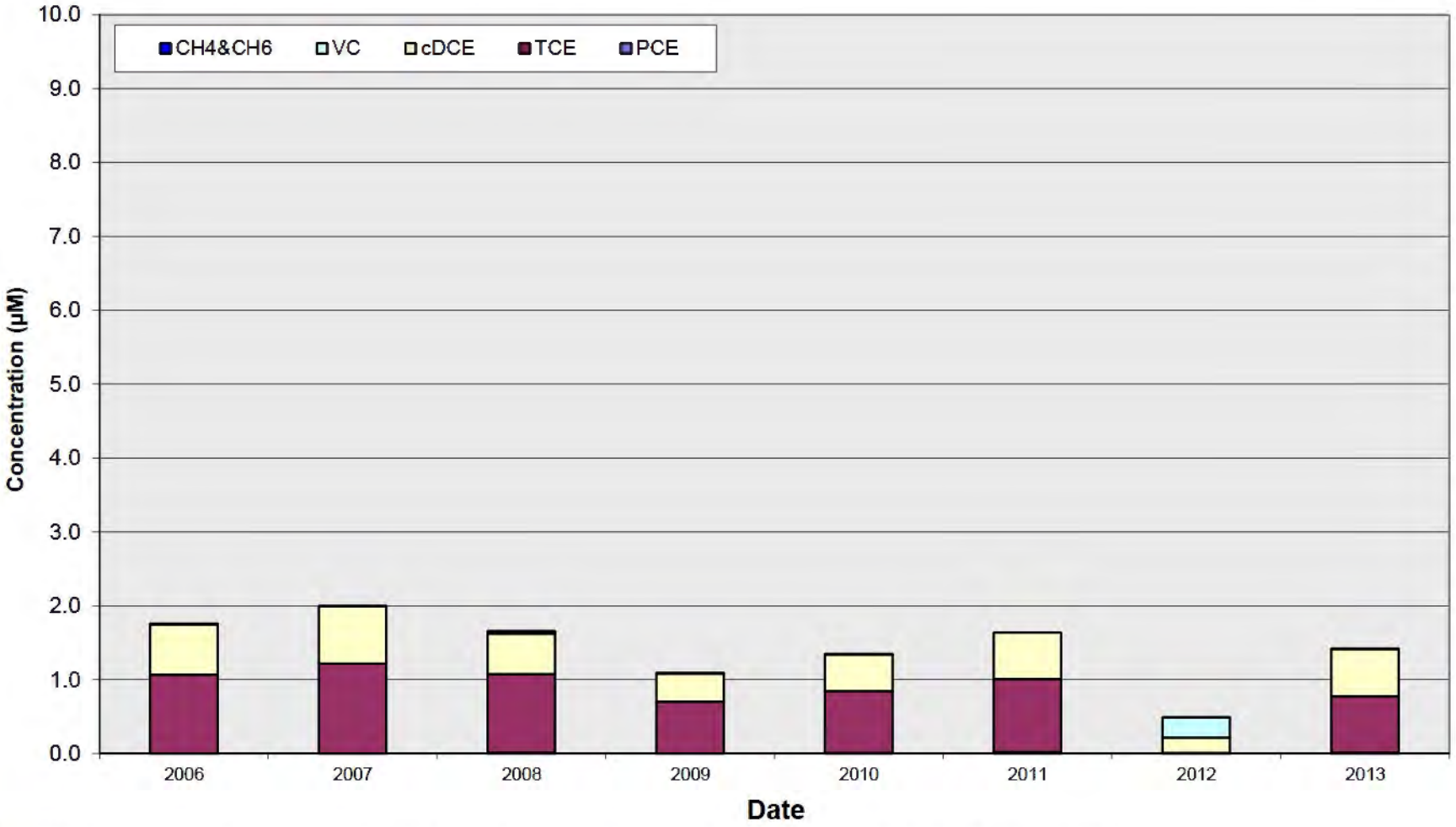
Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-8A



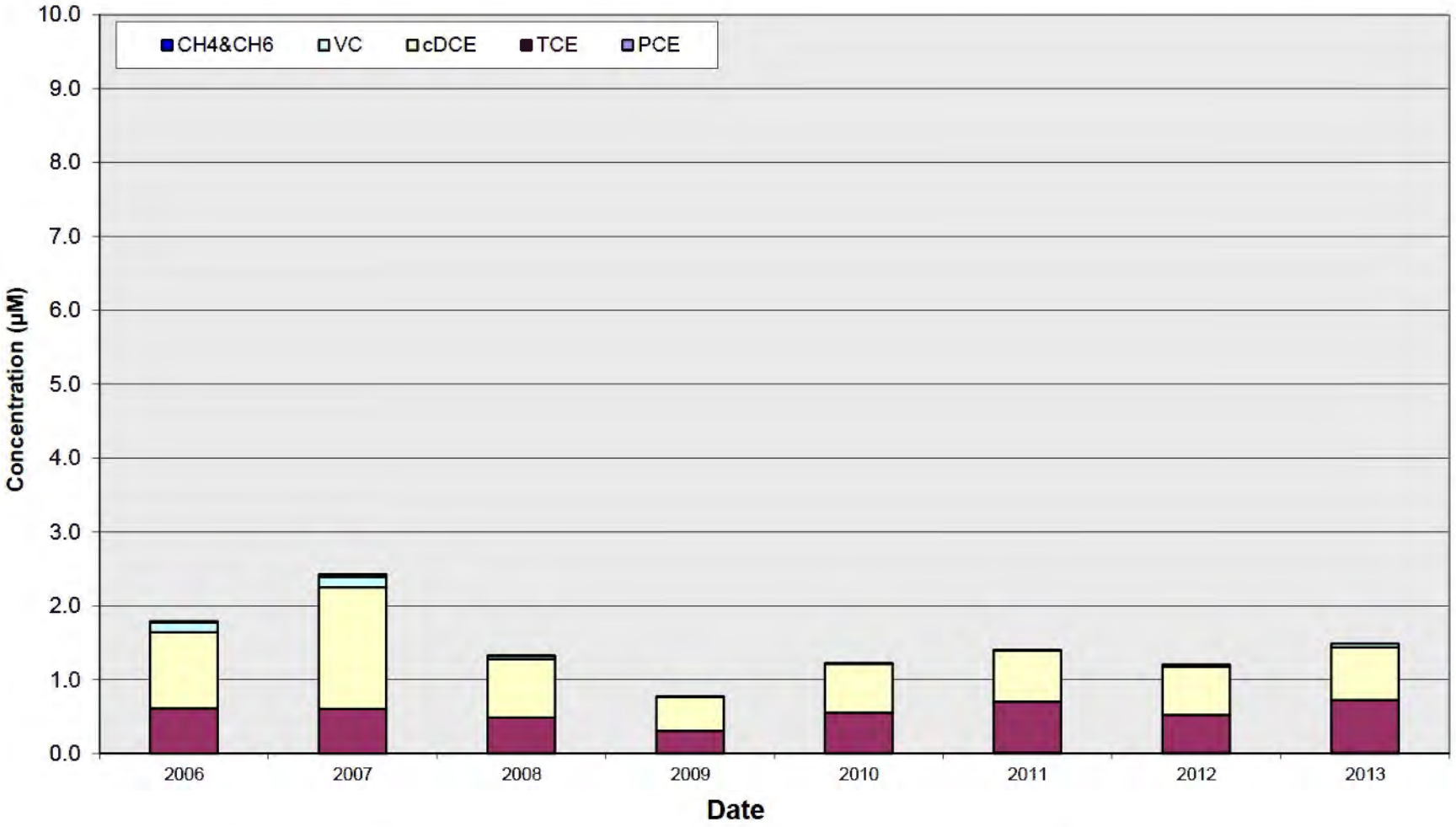
Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-15A



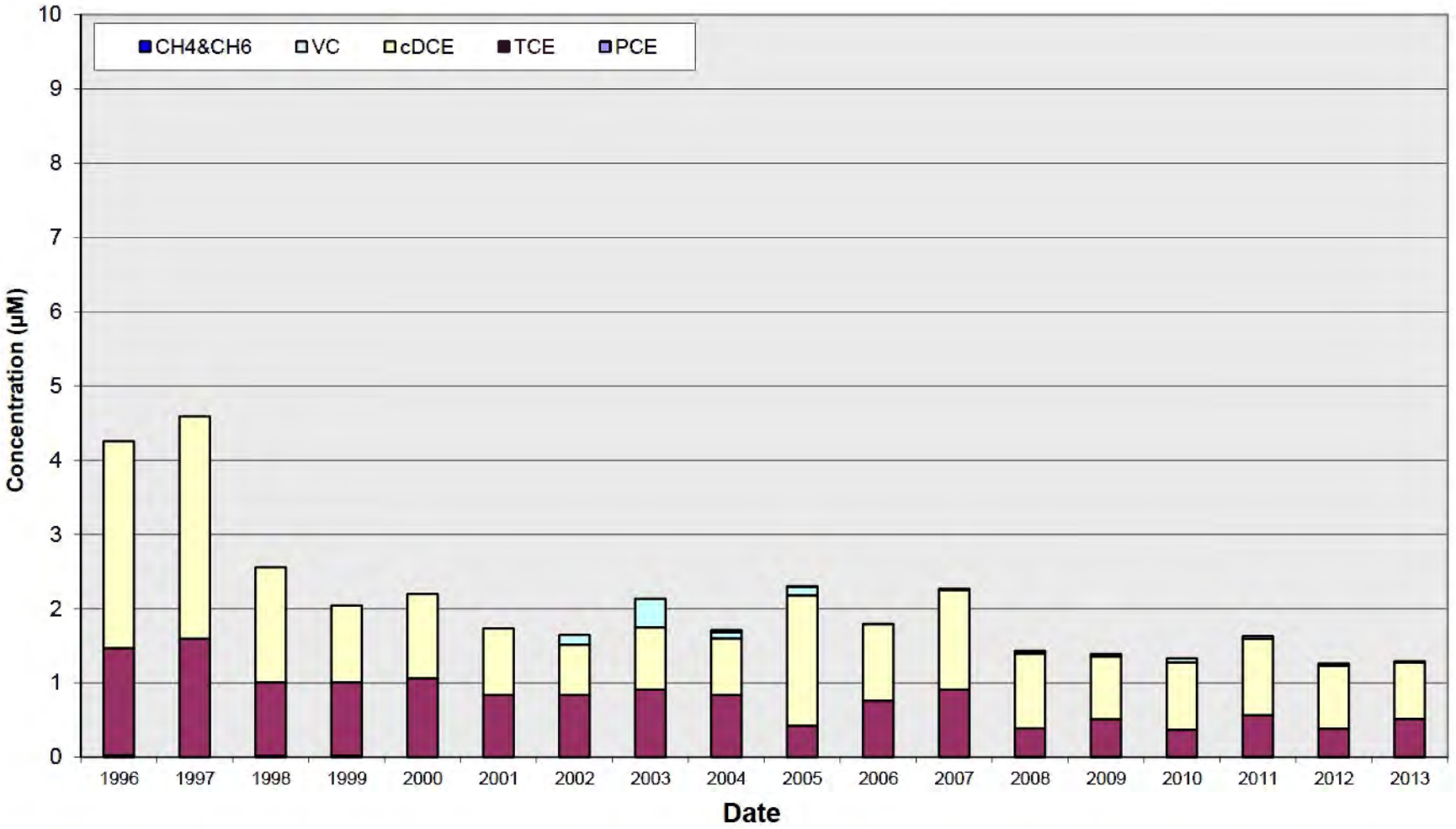
Note: Well was installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-16A



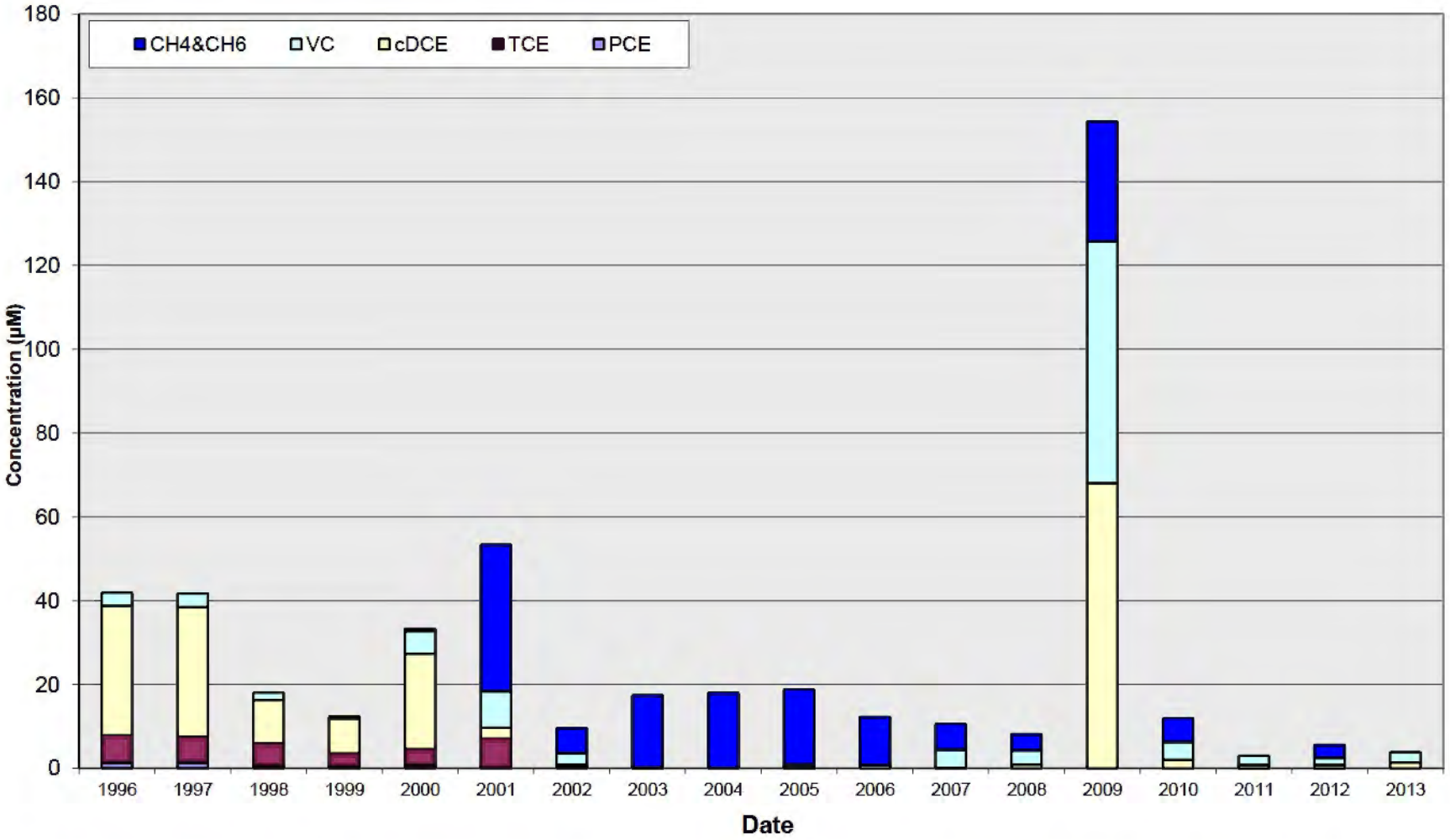
Note: Well was installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-9A



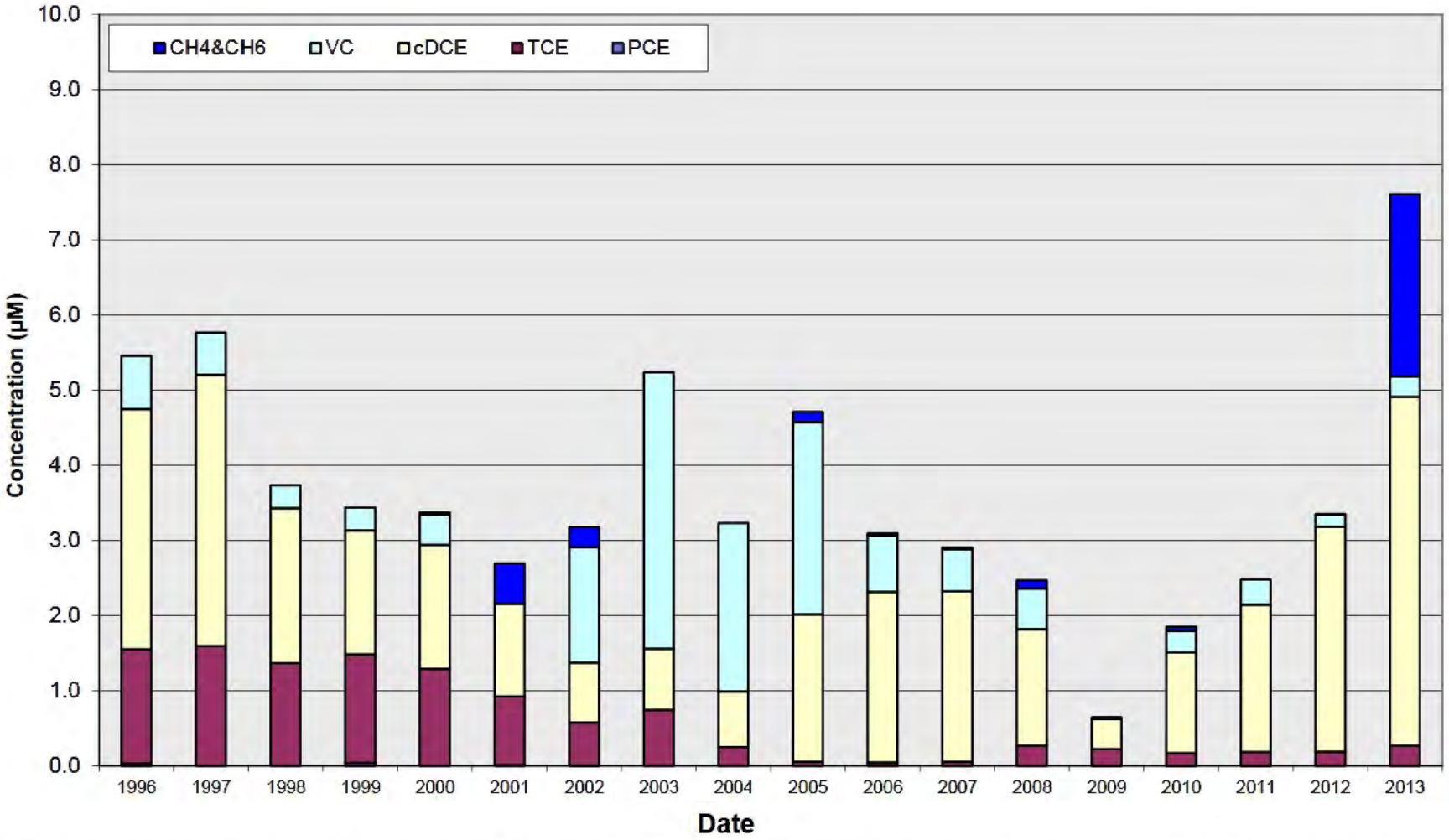
Note: Suspension of groundwater extraction occurred on April 6, 2001. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-2B



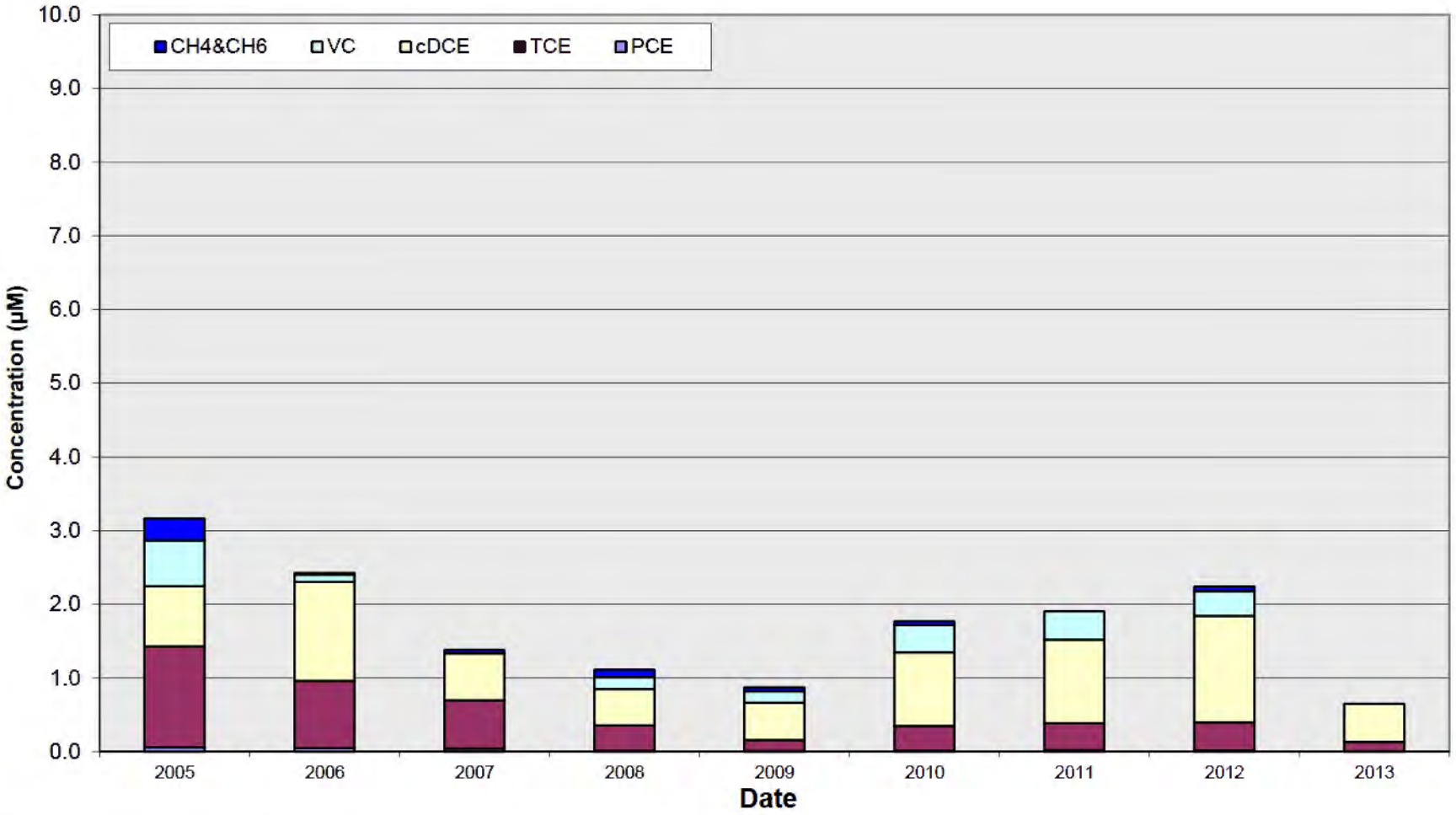
Note: Suspension of groundwater extraction occurred on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-8B



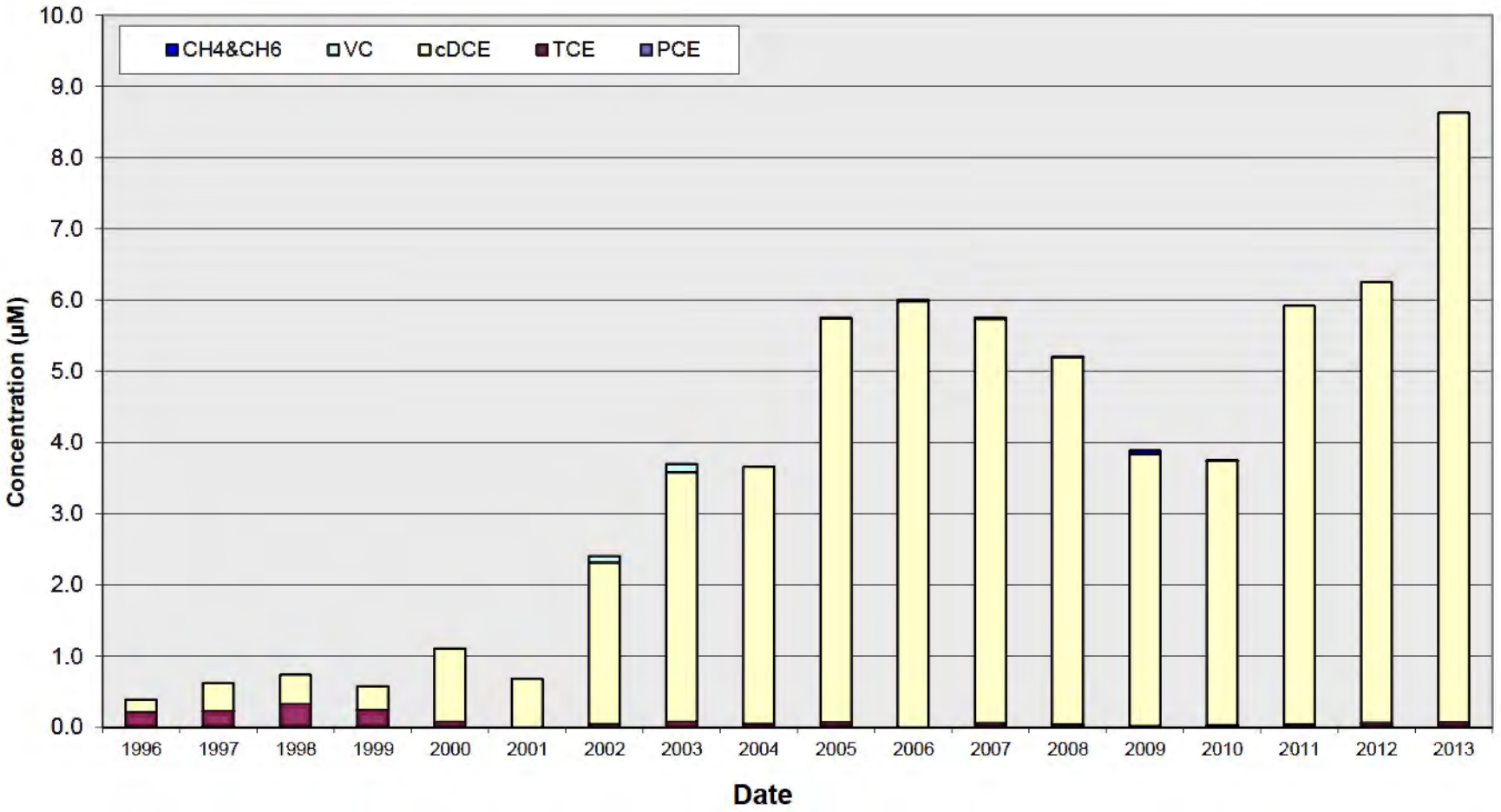
Note: Suspension of groundwater extraction occurred on August 1, 2000. Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-10B



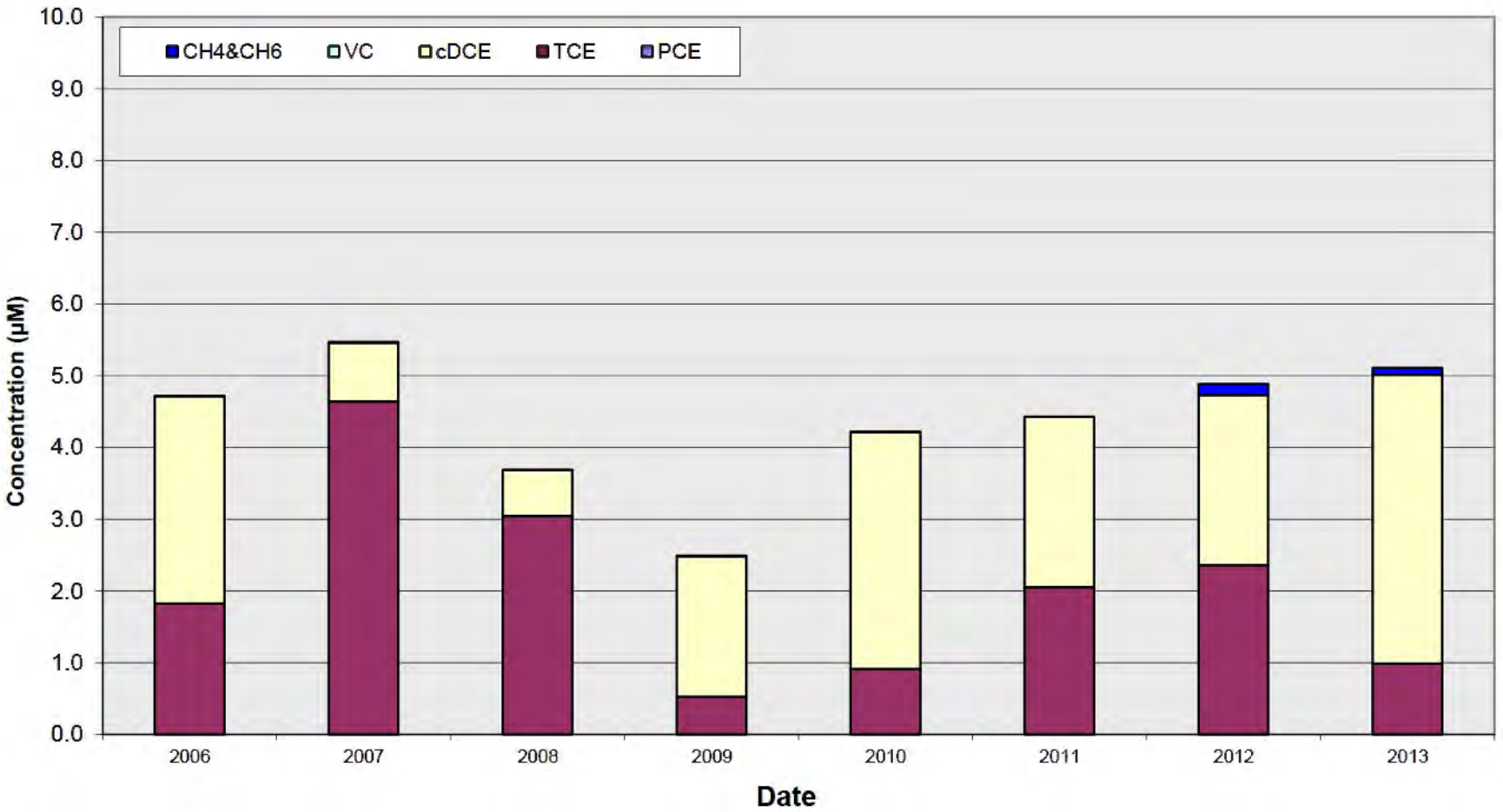
Note: Enhanced anaerobic bioremediation program initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-4B



Note: Enhanced anaerobic bioremediation initiated in October 2000.

Chlorinated Ethene Molar Concentration Trend Plot for Well T-17B



Note: Well installed in August 2005. Enhanced anaerobic bioremediation program initiated in October 2000.

APPENDIX F

SUMMARY OF TCE MASS REMOVAL FROM SOIL VAPOR EXTRACTION SYSTEM

Appendix F
Summary of Volume and Mass TCE Removal from Soil Vapor Extraction System
Former TRW Microwave Site
825 Stewart Drive, Sunnyvale, California

TCE Mass Removed in 1993 (lbs)	41
TCE Mass Removed in 1994 (lbs)	46
TCE Mass Removed in 1995 (lbs)	18
TCE Mass Removed in 1996 (lbs)	17
Total TCE Mass Removed (lbs)	**121**

Notes:

TCE - trichloroethene

lbs - pounds

System started on July 14, 1993 and terminated on July 8, 1996.

TCE mass calculated by Weiss Associates and summarized in: CDM, 1998b. Presentation to Water Board regarding Request for Closure of the SVE system and Vadose Zone, Former TRW Microwave, Sunnyvale, California. August 25, 1998.

APPENDIX G

SUMMARY OF TCE MASS REMOVAL FROM GROUNDWATER EXTRACTION SYSTEM

Appendix G
Summary of Volume and Mass TCE Removal from Groundwater Extraction System
Former TRW Microwave Site
825 Stewart Drive, Sunnyvale, California

	Individual Extraction Well								All Wells
	T-2A	T-2B	T-2C	T-8A	T8-B	T-9A	T-9B	EDUCTOR	
Volume Extracted 1985 - 1990 (gallons)	84,756	453,392	17,526,861	5,706,811	2,137,067	3,261,751	11,260,059	828,582	41,259,279
TCE Mass Removed 1985 -1990 (lbs)	3.1	29	521	46	18	52	869	56	1,594
Volume Extracted 1991 - 1995 (gallons)	17,624	212,991	13,461,406	4,758,235	1,262,514	1,675,792	17,918,977	75,779	39,383,318
TCE Mass Removed 1991 - 1995 (lbs)	0.12	6	468	11	4.0	4.7	470	11	975
Volume Extracted 1996 - 2001 (gallons)	62,342	230,968	12,184,939	4,123,684	1,625,185	7,023,778	8,473,551	651,891	34,376,338
TCE Mass Removed 1996 - 2001 (lbs)	0.14	1.4	320	6.4	2.5	8.1	77	62	478
Total Volume Extracted (gallons)	164,722	897,351	43,173,206	14,588,730	5,024,766	11,961,321	37,652,587	1,556,252	115,018,935
Total TCE Mass Removed (lbs)	3.3	36	1,309	63	25	65	1,417	129	3,047

Notes:

TCE = trichloroethene

lbs = pounds

System Started in late 1995 and temporarily suspended since April 2001

TCE mass calculated by Weiss Associates and CDM and summarized in: CDM, 2001c. Five-Year Status and Effectiveness Evaluation Report for the Former TRW Microwave Site. September, 2001.

APPENDIX H

SUMMARY OF EAB PERFORMANCE MONITORING ANALYTICAL DATA

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
Zone A Aquifer Wells									
36D	Apr-04	21.0	–	–	--	-299	–	–	--
	Apr-03	--	–	–	--	-263	–	–	--
	Nov-99	21.4	–	–	--	151	–	–	--
38S	Oct-13	21.4	6.65	1.435	3	5.8			<1
	May-13	22.8	7.01	1.286	32.8	-75			1.3
	Oct-12	22.57	6.69	1.27	5.30	-19.1	–	–	<1.0
	Apr-12	18.96	6.94	1.26	--	-139	–	–	1.1
	Oct-11	21.80	6.92	1.366	1.2	140.6	–	–	--
	Oct-10	22.01	6.93	9.507	1.5	44.0	–	–	--
	Oct-09	20.25	–	–	--	149	–	–	--
	Oct-08	21.5	--	--	–	17	--	--	--
T-7A	Oct-13	22.5	6.6	1.38	1	50.2			--
	Oct-12	20.88	7.01	1.472	0.0	69.1	–	–	<1.0
	Oct-11	20.54	6.91	1.535	0.0	222.0	–	–	--
	Oct-10	20.81	6.88	4.900	0.0	170.0	–	–	--
	Oct-09	21.40	7.01	1.70	30.8	115	–	–	--
	Oct-08	21.9	–	–	–	237	--	--	--
	Oct-07	21.3	7.34	0.16	202	--	--	--	–
	May-07	21.1	–	–	--	85	--	--	–
	Jan-07	18.2	6.25	1.67	--	168	–	–	--
	Apr-04	18.9	–	–	--	151	–	–	--
	Jun-01	18.9	–	–	--	197	3.00	410	<5.0
	Oct-99	20.5	–	–	--	202	1.65	500	2.3

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
EDUCTOR	Oct-13	19.9	4.91	2.306	7	11.3			1,390
	May-13	20.26	5.49	3.478	9.4	-15.9			1,800
	Oct-12	20.22	5.43	3.67	9.00	-19	--	--	49
	Apr-12	18.45	5.24	3.81	--	-26.6	--	--	2,200
	Oct-11	20.40	5.48	3.806	4.0	-81.7	--	1,400	280
	May-11	--	5.57	--	--	-67.0	--	2,200	3,200
	Mar-11	--	--	--	--	--	--	2,700	3,600
	11/15/2010[(a)]	19.79	6.25	2.47	362	-292	--	900	570
	10/21/2010[(b)]	18.94	7.24	2.213	391.4	-124.4	--	--	160.0
	10/13/2010[(c)]	19.81	5.99	4.413	7.1	-82.8	--	960	280.0
	Oct-09	20.68	--	--	--	-136	--	--	6.2
	Oct-08	20.5	--	--	--	-220	--	--	--
	Oct-07	20.0	--	--	--	-151	--	--	18
	Apr-07	19.3	6.43	0.23	51.2	-133	--	--	18
	Oct-06	20.5	--	--	--	-162	--	--	15
	Apr-06	19.3	--	--	--	-254	--	--	26
	Jan-06	19.8	--	--	--	-144	--	--	330
	Oct-05	20.5	--	--	--	-211	--	--	26
	Sep-05	20.7	--	--	--	--	--	--	--
	Jul-05	19.9	--	--	--	-115	--	--	61
	Apr-05	18.9	--	--	--	-178	--	--	55
	Jan-05	19.2	--	--	--	-239	--	--	14
	Oct-04	20.7	--	--	--	-220	--	1,800	25
	Apr-04	19.0	6.45	3.09	33	-247	--	1,600	46
	Jan-04	18.8	--	--	--	-260	--	1,200	16
	Oct-03	20.1	--	--	--	-236	--	2,100	200
	Jul-03	19.0	6.32	1.44	11	-87	--	6,200	8,000
	Apr-03	18.7	--	--	--	-400	--	2,200	1,700
	Jan-03	18.9	--	--	--	-77	--	2,200	2,800
	Oct-02	19.6	5.69	5.52	1	5	120	6,200	3,700
	Jul-02	19.2	--	--	--	-160	2,800	2,900	1,800
	Mar-02	19.7	--	--	--	-32	480	3,300	5,900
	Jan-02	19.0	--	--	--	-37	2,100	770	21,000
	Nov-01	19.5	--	--	--	-66	3,000	2,300	8,000
	Oct-01	21.2	4.85	5.22	147	-20	4,000	690	24,000
	Aug-01	21.0	4.92	4.17	22	-125	56,000	1,000	5,900
	Jun-01	19.6	6.93	1.44	0	-162	3.20	590	10
	Mar-01	18.9	7.06	1.46	20	-300	--	--	--
	Jan-01	24.4	7.01	1.45	4	-73	--	--	--
	Nov-99	21.3	7.02	1.46	0	200	0.96	470	<2.0

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-2A	Oct-13	19.8	6.36	1.877	2	-117.5			5.9
	May-13	20.34	7.31	2.283	57.9	-137			8.1
	May-13 Dup	20.34	7.31	2.283	57.9	-137			7.7
	Oct-12	20.03	6.73	2.25	2.1	-123.2	--	--	6.5
	Apr-12	18.66	6.97	1.96	--	-87.9	--	--	7.6
	Oct-11	20.16	6.65	2.339	2.2	-145.6	--	1,100	4.8
	May-11	--	--	--	--	--	--	960	28
	Mar-11	--	--	--	--	--	--	860	180
	11/15/2010[a]	19.9	6.73	0.82	225	-303	--	790	120
	10/20/2010[b]	19.91	6.65	1.655	773.4	-55.7	--	--	340
	10/12/2010[c]	20.19	6.66	2.006	0.0	-88.5	--	980	4.8
	Oct-09	20.64	6.81	2.50	4.3	-76	--	--	3.1 J
	Oct-08	20.7	7.02	0.19	48.6	-58	--	--	--
	Oct-07	20.7	6.49	2.41	8.6	-144	--	--	--
	Apr-07	19.4	6.18	0.00	131	-60	--	--	--
	Oct-06	19.6	7.72	2.12	202	-155	--	--	--
	Apr-06	19.5	6.86	1.82	580	-101	--	--	--
	Jan-06	20.0	6.78	0.26	13	-175	--	--	--
	Oct-05	20.7	7.06	2.03	410	-199	--	--	--
	Jul-05	20.2	6.41	2.62	--	-139	--	--	24
	Apr-05	19.1	6.67	2.20	235	-99	--	--	32
	Jan-05	19.2	6.74	2.58	16	-199	--	--	7.0
	Oct-04	20.7	6.51	2.82	--	-116	--	1,500	16
	Apr-04	19.3	6.54	2.37	7	-213	--	1,400	17
	Jan-04	19.3	6.32	2.33	0	-242	--	1,100	12
	Oct-03	20.2	6.79	2.53	21	-118	--	1,400	13
	Jul-03	19.2	7.11	2.51	35	-129	--	1,600	17
	Apr-03	18.9	6.65	2.39	0	-387	--	1,200	28
	Jan-03	18.6	6.82	2.68	5	-122	--	1,700	45
	Oct-02	19.6	6.48	3.79	53	-112	8	2,700	840
	Jul-02	19.2	6.40	4.23	--	-150	27	2,000	360
	Apr-02	19.3	6.53	3.13	48	-150	5.2	2,400	490
	Jan-02	--	--	--	--	--	--	--	--
	Nov-01	19.8	6.62	2.43	67	-85	11	1,200	1,100
	Oct-01	20.9	6.27	2.80	19	-103	15	1,700	460
	Aug-01	21.1	6.24	2.78	1	-127	29	330	410
	Jun-01	19.7	6.71	2.21	9	-121	12	1,900	1,600
	Mar-01	18.3	6.39	2.33	105	-221	580	820	150
	Jan-01	19.0	6.11	1.91	25	-324	190	840	410
	Nov-99	21.0	6.77	1.49	0	181	22.8	500	4.1
T-3A	Oct-13	20	6.71	1.303	1	134.9			--
	Oct-12	20.66	6.90	1.45	0.0	122.3	--	--	--
	Oct-11	20.39	6.93	1.67	0.2	222.3	--	--	--
	Oct-10	20.10	6.90	5.50	0.0	80.2	--	--	--
	Oct-09	20.10	7.44	1.68	5	1.67	--	--	--
	Oct-08	21.5	7.47	0.13	0	214	--	--	--

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-8A	Oct-13	19.6	6.63	1.313	2	190.6			<1
	May-13	22.48	6.59	1.431	26.8	63			1.2
	Oct-12	21.24	6.89	1.41	0	69	–		<1.0
	Apr-12	19.73	6.86	1.362	–	12.8	–		0.66 J
	Oct-11	20.50	6.87	1.538	0.2	192.4	–	–	<1.0
	Oct-10	20.40	6.85	1.546	0.0	33.1	–	–	<1.0
	Apr-10	18.98	6.97	1.32	24.5	-33	–	–	<5.0
	Oct-09	23.1	6.71	1.69	9.8	-69	–	–	<5.0
	Feb-09	18.5	7.31	1.61	2.3	-69	–	–	--
	Oct-08	21.8	6.98	1.87	–	-240	--	--	--
	Oct-07	22.2	7.03	0.16	8.1	-300	–	–	<5.0
	Apr-07	21.3	6.73	1.55	21.9	19	–	–	<5.0
	Jan-07	19.4	6.33	1.60	--	21	–	–	<5.0
	Oct-06	22.3	6.52	0.15	10	-101	–	–	<5.0
	Jul-06	22.4	6.59	0.16	12	8	–	–	<5.0
	Apr-06	19.1	6.69	1.37	13	-389	–	–	<5.0
	Jan-06	19.2	6.99	0.15	10	-176	–	–	<5.0
	Oct-05	22.1	6.55	1.61	0	-100	–	–	<5.0
	Jul-05	21.4	6.68	1.35	--	79	–	470	6.9
	Apr-05	20.0	6.98	1.44	849	77	–	–	--
	Oct-04	21.5	6.28	1.45	0	-138	–	–	--
	Apr-04	19.8	6.75	1.41	0	92	–	480	--
	Jan-04	19.6	6.50	1.46	0	170	–	420	--
	Oct-03	20.8	6.92	1.44	5	109	–	–	--
	Jul-03	20.4	7.18	1.46	0	86	–	–	--
	Apr-03	18.9	6.86	1.46	0	58	–	–	--
	Jan-03	18.9	6.89	1.40	0	143	–	–	--
	Oct-02	20.5	6.93	1.33	11	67	11	480	<5.0
	Jul-02	20.5	6.22	2.00	--	316	13	450	<5.0
	Mar-02	19.3	7.01	1.69	9	59	7.9	440	<5.0
	Jan-02	18.9	6.77	1.35	6	73.5	1.1	510	<5.0
	Nov-01	20.0	6.96	1.31	4	-116	220	450	<5.0
	Oct-01	21.0	6.35	1.40	10	77	3.90	470	6.4
	Aug-01	20.1	6.71	1.45	0	140	1.10	560	<5.0
	Jun-01	21.5	6.86	1.49	0	141	3.20	510	<5.0
	Mar-01	18.9	7.00	1.44	151	17	–	–	--
	Jan-01	18.8	6.57	1.44	11	-311	–	–	--
	Oct-99	21.5	5.78	1.44	1	124	1.36	510	2.2
T-9A	Oct-13	22.1	6.59	1.315	1	96.8			--
	Oct-12	22.03	6.84	1.415	0.0	-77.1	–	–	0.055 J
	Oct-11	21.53	6.81	1.506	0.0	234.0	–	–	--
	Oct-10	22.68	6.84	1.547	0.0	35.9	--	--	–
	Oct-09	21.89	6.59	1.66	2	49	--	--	–
	Oct-08	22.9	6.7	215	–	-131	--	--	--
	Oct-07	22.6	6.59	2.18	13	140	--	--	–
	May-07	20.7	6.82	1.56	-2	6.7	--	--	–
	Jan-07	20.2	6.36	1.57	--	92	–	–	--
	Oct-06	21.6	6.60	1.50	66	145	–	–	--
	Jul-06	20.6	6.74	0.15	113	69	–	–	--
	Apr-06	19.9	6.60	1.39	70.1	-221	–	–	--
	Jan-06	21.0	6.99	1.28	108	25	–	–	--
	Oct-05	22.5	6.91	1.46	724	88	–	–	<5.0
	Jul-05	20.8	6.37	1.34	--	126	–	470	11
	Apr-05	19.6	6.96	1.28	467	48	–	–	--
	Jan-05	20.7	6.92	1.36	503	65	–	–	--
	Oct-04	23.1	6.80	1.49	0	119	–	–	--
	Apr-04	19.2	6.75	1.65	7	144	–	490	--
	Jan-04	20.0	6.54	1.40	0	194	–	420	--

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
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Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-13A	Oct-13	20.6	6.85	1.418	52	-79.1	--	--	1.2
	May-13	20.41	7.02	1.412	55.1	-133	--	--	2.4
	May-13 Dup	20.41	7.02	1.412	55.1	-133	--	--	3.2
	Oct-12	20.4	6.60	1.48	3.4	-105.6	--	--	6.6
	Apr-12	18.9	6.41	1.55	--	-113	--	--	14
	Oct-11	19.60	6.79	1.524	0.0	-23	--	--	1.0
	Oct-10	19.24	6.75	1.538	0.0	-119	--	--	1.0
	Apr-10	18.57	6.77	1.47	23.4	-108	--	--	0.8 J
	Oct-09	20.28	6.53	1.77	1.8	-110	--	--	2.3 J
	Feb-09	19.02	7.09	1.93	65.2	-102	--	--	--
	Oct-08	20.4	7.15	0.32	325	-181	--	--	37
	Oct-07	20.5	6.10	2.24	259	-152	--	--	410
	Jul-07	20.4	6.70	0.13	9.9	236	--	--	<5.0
	Apr-07	20.2	6.38	1.69	--	145	--	--	<5.0
	Jan-07	20.4	6.39	1.72	--	65	--	--	<5.0
	Oct-06	20.6	5.86	0.17	10	188	--	--	<5.0
	Jul-06	20.8	6.23	0.15	5	199	--	--	<5.0
	Apr-06	20.0	6.98	0.72	38	111	--	--	<5.0
	Jan-06	20.2	6.97	0.16	0	244	--	--	<5.0
	Nov-05	21.0	6.43	1.48	0	248	--	510	6.5
T-14A	Oct-13	18.2	6.67	1.232	4	-109.9	--	--	<1
	May-13	20.10	7.21	1.393	31.2	-151	--	--	1.6
	Oct-12	20.51	6.63	1.36	3.9	-79.8	--	--	--
	Apr-12	17.8	6.71	1.41	--	-117	--	--	6.6
	Oct-11	20.03	6.77	1.455	0.9	91	--	--	1.2
	Oct-10	19.99	6.87	4.450	4.7	-170	--	--	1.2
	Apr-10	18.36	6.80	1.51	252.0	-110	--	--	1.3 J
	Oct-09	20.65	7.43	1.72	41.8	-154	--	--	8.0
	Feb-09	18.82	7.14	1.40	50.2	-89	--	--	--
	Oct-08	21.0	6.66	243	--	-466	--	--	22
	Oct-07	20.9	6.01	2.03	71.5	-163	--	--	430
	Jul-07	21.1	6.87	0.13	9.4	141	--	--	<5.0
	Apr-07	24.6	6.45	1.46	--	124	--	--	<5.0
	Oct-06	20.5	6.71	0.15	10	51	--	--	<5.0
	Apr-06	20.2	6.91	1.51	44	80	--	--	<5.0
	Jan-06	19.1	6.92	0.16	0	150	--	--	<5.0
	Nov-05	20.6	6.37	1.44	36	242	--	490	5.4

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Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-15A	Oct-13	21.4	6.55	1.282	4	170.9	--	--	--
	May-13	22.05	6.47	1.444	101	114	--	--	1.3
	Oct-12	22.0	6.47	1.37	0	6.47	--	--	1.6
	Apr-12	19.8	6.81	1.34	--	94	--	--	0.98 J
	Oct-10	21.27	6.84	1.489	0.0	63	--	--	--
	Oct-09	21.27	6.64	1.61	27.9	34	--	--	<5.0
	Oct-08	22.6	7.22	0.18	24.9	64	--	--	<5.0
	Oct-07	22.3	6.62	2.03	205	15	--	--	<5.0
	Jul-07	22.2	7.16	0.13	27.4	135	--	--	<5.0
	May-07	19.9	6.89	0.12	504	60	--	--	<5.0
	Jan-07	20.1	6.37	1.64	--	69	--	--	<5.0
	Oct-06	21.4	6.77	0.15	10	-15	--	--	<5.0
	Jul-06	22.3	6.64	0.15	215	-23	--	--	<5.0
	Apr-06	20.3	7.02	0.90	466	-104	--	--	<5.0
	Jan-06	20.3	7.00	0.16	54	-188	--	--	<5.0
	Nov-05	21.5	6.44	1.46	90	-125	--	580	<5.0
T-16A	Oct-13	21	6.58	1.275	26	149.2	--	--	--
	Oct-12	22.02	6.71	1.38	0.1	115.5	--	--	--
	Oct-11	21.35	6.80	1.48	-0.7	274.7	--	--	--
	Oct-10	21.26	6.82	3.00	3.1	139.7	--	--	--
	Oct-09	22.7	6.24	1.72	6	15	--	--	<5.0
	Oct-08	24.0	6.73	212	--	-135	--	--	<5.0
	Oct-07	21.8	7.06	0.15	567	-34	--	--	<5.0
	May-07	20.5	6.86	0.99	78	51	--	--	<5.0
	Oct-06	22.3	6.87	0.15	526	-57	--	--	<5.0
	Apr-06	20.3	7.03	1.43	582	-105	--	--	<5.0
	Jan-06	20.7	6.96	1.42	224	-107	--	--	<5.0
	Nov-05	22.0	6.41	1.48	15	-101	--	590	7.6
T-17A	Oct-13	20.4	6.79	1.231	2	-30.5	--	--	<1
	May-13	20.79	6.46	1.308	38.1	170	--	--	1.1
	Oct-12	21.1	6.87	1.31	4.9	147.6	--	--	<1.0
	Apr-12	18.2	6.91	1.20	--	61.2	--	--	0.63 J
	Nov-11	18.2	7.3	--	--	-58	--	--	3
	Nov-11	18.80	7.7	--	--	-25	--	--	0.71 J
T-19A	Oct-13	21.7	6.67	1.542	11	-105.2	--	--	4.4
	May-13	19.07	7.09	1.519	30.1	-159	--	--	5.4
	Oct-12	21.14	6.59	2.04	11	-136.4	--	--	12
	Apr-12	16.83	6.56	2.06	--	-141	--	--	16
	Oct-11	21.15	6.88	1.33	0.6	-133	--	--	5.5
	Oct-10	19.98	6.81	4.45	0.0	-120	--	--	5.5
	Apr-10	14.80	6.90	0.714	7.2	-137	--	--	7.6
	Oct-09	22.67	6.84	1.80	2	-120	--	--	5.1
	Feb-09	15.76	7.00	1.46	0.0	-94	--	--	--
	Oct-08	22.4	6.49	498	--	-344	--	--	24
	Oct-07	22.0	5.47	6.13	404	-136	--	--	3,500
	Sep-07	20.9	7.04	1.56	146	36	--	--	<5.0

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

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T-23A	Oct-13	20.5	6.69	1.523	847	-108	--	--	3.6
	May-13	20.28	7.06	1.484	51.5	-147	--	--	3.3
	Oct-12	19.8	6.61	1.49	18.9	-91.9	--	--	6.8
	Apr-12	18.0	6.49	1.71	--	-123	--	--	34
	Oct-11	19.76	6.85	1.61	0.5	-16	--	--	1.1
	Oct-10	19.12	6.79	1.57	0.0	-82	--	--	1.1
	Apr-10	17.15	6.70	1.51	34.5	-144	--	--	1.3 J
	Oct-09	20.02	7.60	1.79	6.1	-141	--	--	15
	Feb-09	18.8	7.13	1.73	32.5	-89	--	--	--
	Oct-08	20.1	6.73	0.423	--	-444	--	--	19
	Oct-07	20.3	6.65	0.19	593	-230	--	--	190
	Sep-07	20.6	7.12	1.46	163	105	--	--	<5.0
T-25A	Oct-13	19.3	6.57	1.252	3	-90.2	--		<1
	May-13	21.76	7.29	1.41	150	-101	--	--	1.4
	Oct-12	20.86	6.54	1.37	1.1	-81.2	--	--	1.5
	Apr-12	19.1	6.76	1.31	--	-138.2	--	--	1.5
	Oct-11	20.33	6.74	1.46	1.4	299.5	--	--	<1.0
	Oct-10	20.06	6.87	6.54	12.1	-24.6	--	--	<1.0
	Apr-10	18.11	6.80	1.57	107.0	-87	--	--	0.8 J
	Oct-09	21.61	6.69	1.63	3.4	-101	--	--	<5.0
	Feb-09	18.35	7.20	1.57	16.1	-86	--	--	--
	Oct-08	22.0	7.18	0.19	17.2	-129	--	--	<5.0
	Oct-07	21.4	6.89	0.14	398	-155	--	--	24
	Sep-07	21.7	7.03	1.59	144	0.71	--	--	<5.0
Zone B1 Aquifer Wells									
T-7B	Oct-13	20.4	6.83	1.024	3	111.4			--
	Oct-12	20.79	7.02	1.09	1.1	131.1	--	--	<1.0
	Oct-11	21.03	7.15	1.08	9.6	66.7	--	--	--
	Oct-10	21.21	7.10	1.11	0.0	77.8	--	--	--
	Oct-09	20.06	6.92	1.12	46.8	101	--	--	--
	Oct-08	19.7	7.67	0.111	6.7	--	--	--	--
	Aug-01	19.1	6.88	1.17	0	9	2.2	360	5.6
	Jun-01	19.2	7.33	1.27	0	147	3.3	380	5.3
	Apr-01	19.4	6.92	1.19	30	-125	2.7	360	<2.0
	Feb-01	18.9	7.64	0.91	--	-163	0.96	160	18
	Dec-00	18.4	7.82	0.37	5	-215	10	130	11
	Nov-00	17.4	6.31	0.33	1	158	2.6	88	43
	Sep-00	19.9	6.60	1.16	2	-230	--	350	2.3
	Oct-99	19.3	8.74	0.41	0	75	1.19	330	2.1

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T-2B	Oct-13	19.3	6.49	1.449	2	-125.8			<1
	May-13	20.68	7.18	1.501	123	-111			1.5
	Oct-12	20.08	6.95	1.49	0	-119.7	--	--	0.11 J
	Apr-12	19.09	6.98	1.51	--	-105	--	--	1.2
	Oct-11	19.92	6.88	1.57	0.1	-131.5	--	510	<1.0
	May-11							500	1.4 J
	11/15/2010[a]	19.6	6.94	1.62	81.4	-118	--	540	27.0
	10/20/2010[b]	19.71	6.77	1.54	170.7	-95	--	--	57.0
	10/12/2010[c]	20.00	6.82	1.53	7.7	-108	--	490	<1.0
	Oct-09	20.56	6.65	2.03	3.1	-138	--	--	--
	Oct-08	20.4	6.86	--	--	-437	--	--	--
	Oct-07	20.0	7.11	0.146	144	-146	--	--	--
	Apr-07	19.7	6.84	0.13	5.9	-117	--	--	--
	Oct-06	19.0	7.78	1.58	331	-160	--	--	--
	Apr-06	20.0	6.99	1.56	58	-127	--	--	--
	Jan-06	19.6	6.84	0.19	92	-170	--	--	--
	Oct-05	20.1	7.19	1.68	11	-90	--	--	<5.0
	Jul-05	20.1	6.54	1.83	--	-152	--	--	20
	Apr-05	19.7	6.77	1.96	20	-146	--	--	28
	Jan-05	19.4	6.76	2.02	3	-163	--	--	<1.0
	Oct-04	20.7	6.54	2.34	0	-175	--	1,200	6.0
	Apr-04	19.3	6.62	2.31	3	-191	--	1,200	11
	Jan-04	19.3	6.47	2.54	0	-195	--	1,200	6.0
	Oct-03	20.0	6.76	2.60	20	-149	--	1,300	5.7
	Jul-03	19.4	7.05	2.60	32	-144	--	1,600	8.2
	Apr-03	19.1	6.73	2.61	10	-148	--	1,400	5.6
	Jan-03	18.5	6.89	2.83	3	-144	--	1,700	13
	Oct-02	19.8	6.79	2.98	286	-140	5.3	2,100	140
	Jul-02	19.6	6.55	2.79	--	-168	28	1,600	300
	Apr-02	18.4	6.38	3.69	40	-120	1.9	2,000	960
	Jan-02	19.3	6.45	3.52	56	-104	8.3	1,700	840
	Oct-01	20.2	6.12	3.86	16	-110	36	2,400	1,600
	Aug-01	21.0	6.07	3.41	0	-101	79	2,100	1,300
	Jun-01	19.6	6.95	1.47	0	-150	5.6	690	11
	Apr-01	19.6	6.66	1.55	46	-159	7.1	670	95
	Feb-01	20.4	6.85	1.50	--	-192	6	120	180
	Dec-00	19.7	6.52	2.11	75	-239	41	1,000	390
	Nov-00	20.6	6.57	1.57	20	-341	240	680	220
	Oct-00	21.0	6.92	1.41	11	-18	110	480	<2.0
	Nov-99	21.3	7.01	1.43	0	-6	1.65	470	4.1
T-5B	Oct-13	21.5	6.88	1.148	3	95.8			--
	Oct-12	21.05	7.11	1.23	0.0	76.9	--	--	--
	Oct-11	22.57	7.18	1.21	3.9	83.5	--	--	--
	Oct-10	21.33	7.11	1.24	0.0	107.1	--	--	--
	Oct-09	20.73	7.11	1.26	0.5	50	--	--	--
	Oct-08	20.0	7.69	0.118	5.9	--	--	--	--

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-8B	Oct-13	20.6	6.63	1.338	10	-75.6			--
	Oct-12	21.73	6.77	1.43	15.6	-61.4	--	--	<1.0
	Oct-11	20.13	6.90	1.52	9.0	59.4	--	--	--
	Oct-10	20.60	6.90	6.20	0.4	-57.0	--	--	--
	Oct-09	24.31	6.42	1.55	41	-64	--	--	<5.0
	Oct-08	22.0	6.78	199	--	-180	--	--	--
	Oct-07	21.9	6.68	2.87	186	-112	--	--	<5.0
	Apr-07	24.5	6.62	1.35	9	-56	--	--	<5.0
	Jan-07	20.0	6.36	1.65	--	-76	--	--	<5.0
	Oct-06	20.7	6.75	1.38	217	-158	--	--	<5.0
	Jul-06	22.4	6.65	0.15	43	-113	--	--	<5.0
	Apr-06	20.1	6.65	1.56	32	-230	--	--	<5.0
	Jan-06	19.6	6.95	1.35	93	-114	--	--	--
	Oct-05	21.4	6.84	1.51	0	-96	--	--	<5.0
	Jul-05	21.7	6.64	1.43	--	-59	--	500	8.3
	Apr-05	20.1	6.95	1.41	351	-83	--	--	--
	Oct-04	23.2	6.15	1.50	36	-161	--	--	--
	Apr-04	21.6	6.83	1.40	15	-23	--	--	--
	Oct-03	20.5	6.94	1.50	14	-30	--	--	--
	Jul-03	20.2	7.48	1.51	26	-40	--	--	--
	Apr-03	19.6	6.90	1.16	9	-83	--	--	--
	Jan-03	19.3	6.72	1.40	0	-35	--	--	--
	Oct-02	20.4	6.91	1.41	143	-72	6.1	550	<5.0
	Jul-02	20.0	6.39	2.00	--	322	2000	500	<5.0
	Mar-02	19.6	6.97	1.46	24	20	23	500	<5.0
	Jan-02	18.8	6.79	1.48	18	-75	33	590	<5.0
	Oct-01	21.5	6.09	1.39	22	77	11	510	<5.0
	Aug-01	20.4	6.64	1.43	0	-101	16	550	6.3
	Jun-01	22.8	6.81	1.59	0	-42	3.5	480	<5.0
	Apr-01	20.0	6.64	1.58	40	-133	140	610	3.6
	Feb-01	19.4	7.02	1.34	--	-186	11	74	<2.0
	Dec-00	19.8	7.02	1.59	7	-306	3.5	720	11
	Nov-00	20.1	6.60	1.42	1	-264	95	570	6.6
	Oct-00	21.5	6.82	1.46	10	180	290	500	4.1
	Oct-99	22.1	5.77	1.50	0	130	1.09	500	3.1
T-9B	Oct-13	25.1	6.76	1.471	1	99.4			--
	Oct-12	20.95	6.94	1.59	1.1	42.8	--	--	<1.0
	Oct-11	20.60	7.06	1.55	0.0	-131.8	--	--	--
	Oct-10	21.53	7.04	1.59	0.0	-168.6	--	--	--
	Oct-09	20.39	6.92	1.43	25.8	-55	--	--	--
	Oct-08	20.4	7.57	0.127	0	--	--	--	--

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
T-10B	Oct-13	18.6	6.72	1.121	2	184.8	--	--	--
	Oct-12	21.52	6.48	1.38	0.0	130.0	--	--	<1.0
	Oct-11	20.60	6.76	1.49	0.0	234.9	--	--	--
	Oct-10	20.68	6.85	5.93	0.0	-13.0	--	--	--
	Oct-09	21.62	6.27	1.65	2.3	-49	--	--	<5.0
	Oct-08	22.3	7.19	0.273	43.2	-51	--	--	--
	Oct-07	21.7	7.17	0.15	398	-55	--	--	<5.0
	Jul-07	22.0	7.51	0.11	216	-23	--	--	--
	May-07	21.2	6.88	0.11	404	-58	--	--	--
	Jan-07	20.2	6.39	1.52	--	8	--	--	<5.0
	Oct-06	23.9	6.75	1.32	--	4	--	--	<5.0
	Jul-06	22.9	6.51	0.15	86	30	--	--	<5.0
	Apr-06	20.8	6.61	1.59	43	-195	--	--	<5.0
	Jan-06	20.5	6.96	0.98	35	-43	--	--	<5.0
	Oct-05	22.0	7.04	1.30	462	15	--	--	5.4
T-4B	Oct-13	20.9	7.09	1.071	1	110			--
	Oct-12	21.42	7.07	1.42	5.5	19	--	--	--
	Oct-11	22.4	7.24	1.38	0	49.2	--	--	--
	Oct-10	21.74	7.23	5.53	6.8	-17.6	--	--	--
	Oct-09	19.92	6.61	1.57	9.9	-137	--	--	--
	Oct-08	21.9	7.3	187	--	-144	--	--	--
	Oct-07	20.2	7.59	0.14	311	-82	--	--	<5.0
	Jul-07	20.8	7.73	0.10	46.5	78	--	--	--
	May-07	20.3	7.54	1.05	--	95	--	--	--
	Oct-06	20.1	7.79	1.34	213	-111	--	--	--
	Apr-06	20.1	6.91	1.29	22	-161	--	--	--
	Jan-06	20.5	7.34	1.28	53	-121	--	--	--
	Oct-05	21.1	7.23	1.42	421	-37	--	--	<5.0
	Jul-05	20.7	6.98	1.32	--	11	--	460	7.6
	Apr-05	19.7	7.30	1.34	343	-63	--	--	--
	Jan-05	20.0	7.24	1.41	--	-92	--	--	--
	Oct-04	21.1	7.25	1.30	--	--	--	--	--
	Apr-04	20.1	6.95	1.29	0	-40	--	440	--
	Jan-04	19.4	6.86	1.39	0	-61	--	430	--
	Jul-03	19.7	7.86	1.34	3	-38	--	--	--
	Apr-03	19.5	7.30	1.22	0	277	--	--	--
	Oct-99	20.2	6.34	1.27	0	12	1.29	420	2.2
T-17B	Oct-13	20.2	7.22	1.246	6	-14.6	--	--	<1
	May-13	22.00	7.20	1.313		-17	--	--	1
	Oct-12	21.15	6.84	1.23	1.4	124.6			<1.0
	Apr-12	19.08	7.12	1.15	--	34.3			0.55 J
	Oct-11	21.03	7.15	1.08	9.6	66.7	--	--	--
	Oct-10	20.08	7.22	1.32	0.0	-28.8	--	--	--
	Oct-09	21.49	6.70	1.47	13.5	-36	--	--	--
	Oct-08	22.1	7.5	0.139	35.4	-186	--	--	--
	Oct-07	20.8	7.39	0.12	581	-65	--	--	<5.0
	Jul-07	21.5	7.57	0.09	255	73	--	--	--
	May-07	20.6	7.02	0.10	205	64	--	--	--
	Jan-07	19.6	6.30	1.28	--	25	--	--	--
	Oct-06	20.3	7.86	0.82	--	-113	--	--	--
	Jul-06	23.8	6.93	0.13	95	-106	--	--	--
	Apr-06	21.0	6.81	1.25	159	-237	--	--	--
	Jan-06	19.0	7.14	1.18	0	-82	--	--	--
T-18B	Oct-13	22	7.35	0.898	5	-89.5	--	--	--
	May-13	23.04	8.04	0.994		-175	--	--	--
T-19B	Oct-13	20.6	6.86	1.008	118	93.6	--	--	--
	May-13	21.44	6.94	1.095		34	--	--	--

Historic Groundwater General Environmental Parameter Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Temperature (°C)	pH (SU)	Conductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Hydrogen (nM)	Alkalinity (mg/L as CaCO3)	Total Organic Carbon (mg/L)
Zone B2 Aquifer Wells									
T-2C	Oct-13	19.1	7.97	0.817	2.0	147.2			--
	Oct-12	20.02	7.46	0.929	2.3	57.1	--	--	--
	Oct-11	20.32	7.50	0.899	0.9	64.3	--	--	--
	Oct-10	21.94	7.90	0.870	0.0	150.7	--	--	--
	Oct-09	20.02	7.08	0.96	372	20	--	--	--
	Oct-08	20	7.79	93	0	57	--	--	--
	Oct-07	21.8	7.06	1.26	9.5	11	2.0	320	--
	Oct-01	21.0	6.87	0.81	10	-24	2.0	320	<5.0
T-9C	Oct-13	19.4	7.48	0.739	4	122.2	--	--	--
	Oct-12	21.23	7.50	0.777	0.0	48.0	--	--	--
	Oct-11	20.35	7.78	0.765	0.0	-127.6	--	--	--
	Oct-10	24.07	7.55	0.807	0.0	21.3	--	--	--
	Oct-09	20.18	7.39	0.829	113	-96	--	--	--
	Oct-08	20.7	8.24	76	0.2	--	--	--	--
T-10C	Oct-13	20.9	7.71	0.783	7	-50.3	--	--	--
	Oct-12	21.22	7.40	0.825	0.0	162.3	--	--	--
	Oct-11	21.71	7.52	0.825	1.3	-192.2	--	--	--
	Oct-10	21.44	7.63	0.805	0.0	-117.5	--	--	--
	Oct-09	20.53	7.52	0.914	-4.1	-91	--	--	--
	Oct-08	19.9	7.98	86	0	--	--	--	--
T-11C	Oct-13	20.6	6.93	0.931	3	103.7	--	--	--
	Oct-12	21.66	6.94	0.971	0.0	208.0	--	--	--
	Oct-11	21.25	7.33	0.956	0.0	-8.0	--	--	--
	Oct-10	21.65	7.34	0.974	0.0	78.1	--	--	--
	Oct-09	20.31	7.22	0.98	156	71	--	--	--
	Oct-08	20.5	7.87	0.1	14.8	--	--	--	--
T-12C	Oct-13	20	7.38	0.858	23	113.8	--	--	--
	Oct-12	19.83	9.17	0.253	8.2	4.2	--	--	--
	Oct-11	20.36	8.95	0.255	20.9	-5.1	--	--	--
	Oct-10	20.53	9.44	12.84	1.8	65.0	--	--	--
	Oct-09	19.13	7.70	0.88	1.4	90	--	--	--
	Oct-08	19.8	10.4	32	19.3	73	--	--	--

Notes:
[a] One month post EVO injection (just before pure soybean oil injection)
[b] Immediately after EVO injection
[c] Immediately before EVO injection
°C = degree Celsius
SU = standard units
uS/cm = micro Siemens per centimeter
NTU = Nephelometric Turbidity Unit
mV = millivolts
nM = nanomolar
mg/L = milligram per liter
$CaCo_3$ = calcium carbonate
-- = not analyzed/measured

Historic Groundwater Electron Acceptor/Metabolic By-Product Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

		Electron Acceptors				Metabolic By-Products						
Well	Date	Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
Zone A Aquifer Wells												
T-7A	Oct-13	0.34	–	–	–	–	–	–	–	–	–	–
	10/17/2012[a]	0.64	<0.50	170	–	–	–	–	–	1.5/0.64	0.031/0.038	0.76/0.74
	Oct-11	0.49	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.99	–	–	–	–	–	–	–	–	–	–
	Oct-09	5.53	–	–	–	–	–	–	–	–	–	–
	Oct-08	3.97	–	–	–	–	–	–	–	–	–	–
	May-07	3.44	–	–	–	–	–	–	–	–	–	–
	Jun-01	1.26	–	–	–	<1.0	0.012	<2.0	45	0.10	0.006	0.014
	Oct-99	0.71	3.0	190	<0.02	<1.0	<0.005	<2.0	55	0.05	0.013	0.017
EDUCTOR	Oct-13	0.19	–	1.6	–	–	–	–	–	6,400	22	910
	May-13	0.15	–	0.99 J	–	–	–	–	–	7,300	22	970
	Oct-12	0.07	<0.50	2.2	–	–	–	–	–	7,200	19	1,500
	Apr-12	0.71	–	3.0	–	–	–	–	–	6,100	18	1,400
	Oct-11	0.16	–	8.2	–	–	–	–	–	7,200	10	380
	May-11	0.14	–	–	–	–	–	–	–	520	3	1,300
	Mar-11	0.27	–	–	–	–	–	–	–	870	5	1,300
	11/15/2010[b]	2.06	–	–	–	–	–	–	–	7,600	90	2,400
	10/21/2010[c]	0.20	–	–	–	–	–	–	–	–	–	–
	10/13/2010[d]	5.99	–	2.8	–	–	–	–	–	6,900	14	24,000
	Oct-09	1.57	–	100	–	–	–	–	–	13,000	110	5,700
	Oct-08	0.00	–	–	–	–	–	–	–	9,100	12	14,000
	Oct-07	0.09	–	–	–	–	–	–	–	13,000	31	12,000
	Apr-07	2.79	–	4.2	–	6.5	–	–	250	13,000	52	7,300
	Oct-06	1.23	–	–	–	6.1	–	–	250	12,000	47	11,000
	Apr-06	0.00	–	–	–	4.7	–	–	250	14,000	63	9,300
	Jan-06	–	–	–	–	14	–	–	410	9,600	49	14,000
	Oct-05	–	–	–	–	3.7	–	–	220	12,000	79	6,100
	Sep-05	–	–	–	–	–	–	–	–	–	–	–
	Jul-05	0.20	–	–	–	1.5	–	–	240	11,000	110	6,100
	Apr-05	0.66	–	2.1	–	6.1	–	–	230	10,000	170	800
	Jan-05	0.06	–	–	–	4.9	–	–	160	9,500	260	6,700
	Oct-04	0.00	–	–	–	3.8	13	–	<1.0	11,000	300	4,200
	Apr-04	0.00	–	–	–	20	12	–	110	11,000	61	1,900
	Jan-04	0.00	–	–	–	2.0	16	–	–	11,000	9.6	600
	Oct-03	–	–	–	–	1.6	14	–	110	13,000	0.79	800
	Jul-03	0.00	–	–	–	58	41	–	310	950	8.1	9,900
	Apr-03	0.00	–	–	–	15	24	–	40	8,400	0.29	160
	Jan-03	–	–	–	–	29	21	–	120	3,600	1.4	310
	Oct-02	0.00	–	–	–	14	0.05	12	36	320	0.40	120
	Jul-02	–	6.3	7.8	3.0	–	–	–	100	380	0.080	85
	Mar-02	–	–	–	–	–	110	<2.0	740	11	0.045	4.6
	Jan-02	0.61	–	–	–	690	150	35	1,300	160	0.034	34
	Nov-01	–	<0.10	91	20	6.4	66	<2.0	54	4.6	0.018	1.4
	Oct-01	0.13	–	–	–	400	92	<2.0	4,000	0.95	0.050	15
	Aug-01	0.00	–	–	–	22	22	<2.0	64	2.4	0.11	29
	Jun-01	0.00	<0.05	120	1.0	1.1	2.5	<2.0	100	150	0.13	450
	Mar-01	0.39	–	–	–	0.97 w/HACH	–	–	–	–	–	–
	Jan-01	5.90	–	–	–	0.00 w/HACH	–	–	–	–	–	–
	Nov-99	6.20	–	–	–	<1.0	<0.005	<2.0	74	0.092	0.006	0.28
T-2A	Oct-13	0.21	–	34	–	–	–	–	–	8,200	250	170
	May-13	1.73	–	33	–	–	–	–	–	4,000	120	67
	May-13 Dup	1.73	–	37	–	–	–	–	–	4,300	120	72
	Oct-12	0.33	<0.50	13	–	–	–	–	–	10,000	280	470
	Apr-12	0.56		22	–	–	–	–	–	5,600	160	150
	Oct-11	0.20	–	5	–	–	–	–	–	11,000	490	190
	May-11	0.21	–	–	–	–	–	–	–	18,000	30	170
	Mar-11	0.17	–	–	–	–	–	–	–	20,000	19	530
	11/15/2010[a]	1.96	–	–	–	–	–	–	–	9,800	59	1,400
	10/20/2010[b]	6.65	–	–	–	–	–	–	–	–	–	–
	10/12/2010[c]	6.66	–	58	–	–	–	–	–	13,000	85	1,300
	Oct-09	4.29	–	88	–	–	–	–	–	6,100	32	180
	Oct-08	0.00	–	–	–	–	–	–	–	14,000	40	44
	Oct-07	4.01	–	–	–	–	–	–	–	5,700	24	16
	Apr-07	0.00	–	–	–	–	–	–	–	5,700	24	16
	Oct-06	–	–	–	–	–	–	–	–	11,000	59	53
	Apr-06	0.00	–	–	–	–	–	–	–	7,900	21	19
	Jan-06	–	–	–	–	–	–	–	–	7,800	31	26
	Oct-05	–	–	87	–	16	–	–	70	11,000	34	22
	Jul-05	0.45	–	20	–	2.5	–	–	85	12,000	52	41
	Apr-05	0.43	–	85	–	18	–	–	93	11,000	32	27
	Jan-05	0.09	–	14	–	10	–	–	72	6,800	26	30
	Oct-04	0.00	–	5.8	–	4.4	3.2	–	<1.0	8,200	25	41
	Apr-04	0.00	–	15	–	25	3.3	–	66	6,300	15	22
	Jan-04	0.00	–	25	–	21	3.7	–	94	9,900	26	18
	Oct-03	–	–	<1.0	–	25	2.2	–	65	9,100	5.2	29
	Jul-03	0.00	–	4.3	–	25	2.5	–	60	7,900	3.1	23
	Apr-03	0.00	–	6.1	8.6	35	3.5	–	29	9,800	6.5	13
	Jan-03	0.78	–	4.2	0.53	23	1.8	–	52	13,000	3.6	21
	Oct-02	0.00	12	16	160	70	7.9	–	72	1,200	0.26	7.3
	Jul-02	–	7.4	27	82	–	–	–	64	950	0.68	51
	Apr-02	0.12	1.7	4.3	67	56	8.0	<2.0	89	2,700	4.0	280

Historic Groundwater Electron Acceptor/Metabolic By-Product Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

		Electron Acceptors				Metabolic By-Products						
Well	Date	Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-2A	Jan-02	–	–	–	–	–	–	–	–	–	–	–
(continued)	Nov-01	0.35	2.0	80	23	35	5.4	3.2	2,400	1,200	0.009	44
	Oct-01	0.00	0.30	54	64	58	9.5	<2.0	57	1,400	0.016	49
	Aug-01	0.00	<0.10	53	60	48	9.0	<2.0	63	2,220	0.086	150
	Jun-01	0.00	<0.05	7.8	100	94	18	<2.0	71	6,300	<0.005	160
	Mar-01	2.03	2.0	120	15	8.4	4.8	<2.0	57	660	0.033	44
	Jan-01	5.90	0.77	63	15	9.5	3.2	<2.0	68	160	0.028	9.1
	Nov-99	2.64	3.3	290	<0.02	<1.0	<0.005	<2.0	72	0.093	0.019	0.062
T-3A	Oct-13	0.98	–	–	–	–	–	–	–	–	–	–
	Oct-12	1.23	–	–	–	–	–	–	–	–	–	–
	Oct-11	1.75	–	–	–	–	–	–	–	–	–	–
	Oct-10	1.40	–	–	–	–	–	–	–	–	–	–
	Oct-09	3.3	–	–	–	–	–	–	–	–	–	–
	Oct-08	4.21	–	–	–	–	–	–	–	–	–	–
T-8A	Oct-13	0.4	–	180	–	–	–	–	–	100	0.076	0.023 J
	May-13	0.21	–	170	–	–	–	–	–	13	0.030	0.050
	Oct-12	0.27	1.9	160	–	–	–	–	–	180	0.082	0.12
	Apr-12	0.53		180	–	–	–	–	–	2,900	0.38	0.26
	Oct-11	0.17	–	200	–	–	–	–	–	66	0.011J	0.037
	Oct-10	0.16	–	200	–	–	–	–	–	300	0.043	0.220
	Apr-10	6.97	–	–	–	–	–	–	–	560	0.042	0.330
	Oct-09	3.83	–	210	–	–	–	–	–	550	0.076	2.500
	Oct-08	0.00	–	–	–	–	–	–	–	–	–	–
	Oct-07	0.00	–	150	–	0.42	–	–	90	3,700	0.15	7.40
	Apr-07	1.23	–	260	–	<1.0	–	–	120	750	0.061	0.26
	Jan-07	0.00	–	240	–	<1.0	–	–	80	3,500	0.075	0.7
	Oct-06	1.66	–	240	–	2.6	–	–	95	4,200	<0.025	2.7
	Jul-06	0.21	–	260	–	<1.0	–	–	67	1,000	<0.025	0.24
	Apr-06	0.00	–	160	–	<1.0	–	–	51	3,000	0.12	3.8
	Jan-06	0.49	–	130	–	<1.0	–	–	41	2,200	<0.025	3.7
	Oct-05	0.00	–	210	–	<1.0	–	–	81	58	<0.025	0.029
	Jul-05	0.47	23	180	–	<1.0	<0.1	–	67	65	<0.025	0.031
	Apr-05	0.60	–	250	–	–	–	–	67	–	–	–
	Oct-04	0.00	–	–	–	–	–	–	–	–	–	–
	Apr-04	0.00	22	200	–	<1.0	–	–	59	38	<0.005	<0.005
	Jan-04	0.00	23	260	–	<1.0	–	–	72	13	0.058	0.11
	Oct-02	–	14	200	0.42	<1.0	0.016	<2.0	60	20	0.006	0.053
	Jul-02	–	16	190	0.086	–	–	–	68	44	0.009	0.038
	Mar-02	0.00	–	230	0.28	–	0.021	<2.0	59	56	0.008	0.066
	Jan-02	0.60	13	220	0.22	<1.0	0.027	<2.0	66	76	<0.005	0.066
	Nov-01	0.00	12	230	0.24	<1.0	0.047	3.2	63	52	0.008	0.079
	Oct-01	0.23	16	210	7.0	<1.0	0.057	<2.0	68	130	0.008	0.11
	Aug-01	0.00	16	2,500	0.38	<1.0	0.041	<2.0	65	43	0.007	0.072
	Jun-01	0.00	2.3	250	<0.050	<1.0	<0.010	<2.0	77	4.0	0.009	0.018
	Mar-01	0.61	–	–	–	0.17 w/HACH	–	–	–	–	–	–
	Jan-01	6.37	–	–	–	0.10 w/HACH	–	–	–	–	–	–
	Oct-99	3.82	3.6	280	0.0206	<1.0	0.014	<2.0	69	0.112	0.027	0.012
T-9A	Oct-13	0.31	–	–	–	–	–	–	–	–	–	–
	Oct-12	0.30	<0.50	170	–	–	–	–	–	140	0.5	0.031
	Oct-11	0.17	–	–	–	–	–	–	–	–	–	–
	Oct-10	7.37	–	–	–	–	–	–	–	–	–	–
	Oct-09	0.00	–	–	–	–	–	–	–	–	–	–
	Oct-08	0.00	–	–	–	–	–	–	–	290	0.4	0.053
	Oct-07	4.19	–	–	–	–	–	–	–	260.0	0.330	0.084
	May-07	2.25	–	–	–	–	–	–	–	9.8	0.120	0.054
	Oct-06	3.32	–	–	–	–	–	–	–	5.6	0.062	<0.025
	Jul-06	0.17	–	–	–	–	–	–	–	–	–	–
	Apr-06	0.00	–	–	–	–	–	–	–	1,800	0.27	0.091
	Jan-06	–	–	–	–	–	–	–	–	2,000	0.12	0.14
	Oct-05	0.00	–	130	–	<1.0	–	–	63.0	530	0.12	0.096
	Jul-05	0.53	9.9	210	–	<1.0	0.2	–	68.0	100	0.057	0.048
	Apr-05	0.05	–	240	–	–	–	–	–	74	–	–
	Jan-05	0.21	–	–	–	–	–	–	–	–	–	–
	Oct-04	0	7.5	180	–	–	–	–	62	74	0.23	0.54
	Apr-04	0.00	11	190	–	<1.0	–	–	52	81	0.026	0.027
	Jan-04	0.00	16	200	–	<1.0	–	–	69	96	0.52	0.20
T-13A	Oct-13	0.45	–	180	–	–	–	–	–	6,000	1.8	3.4
	May-13	0.66	–	170	–	–	–	–	–	3,800	0.71	2.8
	May-13 Dup	0.66	–	160	–	–	–	–	–	4,600	0.83	3.0
	Oct-12	0.18	<0.50	100	–	–	–	–	–	7,700	1.30	22.00
	Apr-12	0.61		94	–	–	–	–	–	14,000	1.9	6.9
	Oct-11	0.13	–	200	–	–	–	–	–	2,200	0.180	3.8
	Oct-10	0.24	–	210	–	–	–	–	–	5,600	0.620	4.6
	Apr-10	6.77	–	–	–	–	–	–	–	9,200	5.300	8.0
	Oct-09	3.53	–	180	–	–	–	–	–	11,000	0.700	6.7
	Oct-08	4.95	–	77	–	14	–	–	120	12,000	1.2	5
	Oct-07	4.25	–	91	–	2.7	–	–	81.0	2,900	0.140	0.7
	Jul-07	0.62	–	250	–	<1.0	–	–	100.0	170	<0.025	<0.025
	Apr-07	2.65	–	260	–	<1.0	–	–	120.0	230	<0.025	<0.025
	Jan-07	0.09	–	260	–	<1.0	–	–	92.0	450	<0.025	0.0
	Oct-06	2.23	–	330	–	<1.0	–	–	81.0	370	<0.025	3.8
	Jul-06	0.24	–	260	–	<1.0	–	–	74.0	480	0.026	0.081
	Apr-06	0.65	–	230	–	<1.0	–	–	74.0	790	0.036	1.4
	Jan-06	1.04	–	230	–	<1.0	–	–	66.0	31	0.037	0.58
	Nov-05	0.00	13	210	–	<1.0	0.1	–	63.0	9.8	0.18	0.23

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		Electron Acceptors				Metabolic By-Products						
Well	Date	Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-14A	Oct-13	0.43	–	160	–	–	–	–	–	320	0.85	8.5
	May-13	0.24	–	140	–	–	–	–	–	360	0.82	9.8
	Oct-12	0.22	–	–	–	–	–	–	–	–	–	–
	Apr-12	0.73	–	160	–	–	–	–	–	5,500	2.6	8.6
	Oct-11	0.11	–	190	–	–	–	–	–	170	0.210	6.0
	Oct-10	0.38	–	190	–	–	–	–	–	300	0.400	7.4
	Apr-10	6.69	–	–	–	–	–	–	–	530	0.450	6.3
	Oct-09	0.54	–	180	–	–	–	–	–	4,300	0.760	12
	Oct-08	0	–	180	–	8.5	–	–	100	9,400	0.2	14
	Oct-07	4.25	–	45.0	–	15.0	–	–	73.0	520	0.340	0.560
	Jul-07	0.15	–	210.0	–	<1.0	–	–	89.0	160	0.059	0.052
	Apr-07	1.89	–	210.0	–	<1.0	–	–	110.0	91	0.029	0.031
	Oct-06	1.49	–	–	–	<1.0	–	–	–	260	0.041	0.53
	Apr-06	0.46	–	240	–	<1.0	–	–	65.0	1,400	0.076	0.64
	Jan-06	0.20	–	210	–	<1.0	–	–	56.0	560	0.029	0.088
	Nov-05	0.00	13	210	–	<1.0	0.1	–	60.0	640	0.084	0.16
T-15A	Oct-13	0.37	–	–	–	–	–	–	–	–	–	–
	May-13	0.30	–	170	–	–	–	–	–	2.5	0.023 J	0.026
	Oct-12	0.23	3.6	160	–	–	–	–	–	1.8	0.038	0.05
	Apr-12	0.42	–	190	–	–	–	–	–	9.9	0.10	0.11
	Oct-11	0.12	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.29	–	–	–	–	–	–	–	–	–	–
	Oct-09	3.27	–	–	–	–	–	–	–	–	–	–
	Oct-08	6.55	–	230	–	<1.0	–	–	97	6.4	<0.025	0.33
	Oct-07	2.88	–	250	–	<0.05	–	–	92	18	<0.025	0.14
	Jul-07	0.02	–	–	–	–	–	–	–	–	–	–
	Jan-07	0.00	–	210	–	<1.0	–	–	76	140	0.04	0.16
	Oct-06	1.63	–	260	–	<1.0	–	–	85	180	<0.025	0.26
	Jul-06	0.15	–	260	–	<1.0	–	–	63	240	0.049	0.59
	Apr-06	0.69	–	250	–	<1.0	–	–	66.0	1,200	0.16	3.6
	Jan-06	0.57	–	190	–	<1.0	–	–	60.0	2,100	0.12	5.2
	Nov-05	0.00	1.0	140	–	<1.0	1.7	–	63.0	3,200	0.042	1.6
T-16A	Oct-13	0.32	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.24	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.15	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.39	–	–	–	–	–	–	–	–	–	–
	Oct-09	3.16	–	–	–	–	–	–	–	–	–	–
	Oct-08	0.00	–	220	–	<1	–	–	95	160	<0.025	0.08
	Oct-07	0.00	–	240	–	<1.0	–	–	99.0	190	<0.025	0.92
	May-07	0.00	–	270	–	<1.0	–	–	100.0	47	0.057	0.13
	Oct-06	1.40	–	270	–	<1.0	–	–	84.0	320	<0.025	0.55
	Apr-06	0.22	–	240	–	<1.0	–	–	63.0	1,800	0.17	3.6
	Jan-06	–	–	200	–	1.1	–	–	57.0	2,500	0.084	3.7
	Nov-05	0.00	1.0	140	–	<1.0	2.0	–	62.0	5,900	0.076	2.0
T-17A	Oct-13	0.24	–	130	–	–	–	–	–	530	0.61	0.14
	May-13	0.08	–	140	–	–	–	–	–	1,100	0.66	0.21
	Oct-12	0.22	5.9	120	–	–	–	–	–	2500.0	1.2	0.070
	Apr-12	0.44	–	120	–	–	–	–	–	4,000	1.6	0.67
	Nov-11	–	–	140	–	–	–	–	–	1.8	0.14	0.39
T-19A	Oct-13	0.85	–	32	–	–	–	–	–	8,400	3.4	3.3
	May-13	1.52	–	37	–	–	–	–	–	8,900	2.6	4.9
	Oct-12	0.17	0.22 J	23	–	–	–	–	–	13,000	1.7	2.9
	Apr-12	0.61	–	7.3	–	–	–	–	–	16,000	1.1	1.1
	Oct-11	0.24	–	140	–	–	–	–	–	1,000	2.000	10.000
	Oct-10	0.43	–	170	–	–	–	–	–	3,200	2.900	13.000
	Apr-10	6.78	–	–	–	–	–	–	–	3,300	11.000	7.400
	Oct-09	2.03	–	81	–	–	–	–	–	12,000	6.600	7.100
	Oct-08	0	–	<2.0	–	22	–	–	140	11,000	0.52	2.3
	Oct-07	–	–	42	–	44.0	–	–	120.0	92	0.180	0.23
	Sep-07	0.82	–	250	–	<1.0	–	–	84.0	34	0.300	0.25
T-23A	Oct-13	0.9	–	130	–	–	–	–	–	6,100	2.8	1.8
	May-13	0.13	–	160	–	–	–	–	–	4,600	1.3	2.4
	Oct-12	0.13	<0.50	120	–	–	–	–	–	7,900	1.1	5.2
	Apr-12	0.79	–	100	–	–	–	–	–	9,300	0.48	3.1
	Oct-11	0.21	–	190	–	–	–	–	–	2,200	6.000	2.400
	Oct-10	0.49	–	190	–	–	–	–	–	3,000	7.200	6.100
	Apr-10	6.71	–	–	–	–	–	–	–	4,900	6.500	14.00
	Oct-09	0.47	–	200	–	–	–	–	–	3,400	6.500	14.00
	Oct-08	0	–	79	–	4.9	–	–	100	13,000	0.86	3.3
	Oct-07	0.00	–	100	–	1.5	–	–	83.0	6.70	0.530	0.480
	Sep-07	1.24	–	200	–	<1.0	–	–	97.0	1.50	0.091	0.110
T-24A	Oct-11	0.11		–						6,800	20.000	4.700
T-25A	Oct-13	0.33	–	160	–	–	–	–	–	47	0.13	15
	May-13	0.22	–	160	–	–	–	–	–	57	0.14	14
	Oct-12	0.22	–	–	–	–	–	–	–	–	–	–
	Apr-12	0.37	–	150	–	–	–	–	–	7,000	9.8	16
	Oct-11	0.21	–	190	–	–	–	–	–	21	0.059	0.740
	Oct-10	0.45	–	190	–	–	–	–	–	41	0.062	2.200
	Apr-10	6.80	–	–	–	–	–	–	–	450	0.280	5.300
	Oct-09	3.65	–	200	–	–	–	–	–	54.00	0.140	8.000
	Oct-08	4.75	–	220	–	2.7	–	–	93	1,200	0.48	14
	Oct-07	0.00	–	170	–	2.7	–	–	90.0	970	0.033	0.580
	Sep-07	0.71	–	260	–	<1.0	–	–	96.0	170	0.076	0.210

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Well	Date	Electron Acceptors				Metabolic By-Products						
		Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
38S	Oct-13	0.24	–	140	–	–	–	–	–	–	–	–
	May-13	1.41	–	130	–	–	–	–	–	–	–	–
	Oct-12	0.22	<0.50	110	–	–	–	–	–	880	1.5	0.64
	Apr-12	0.49	–	120	–	–	–	–	–	1,100	1.4	0.53
	Oct-11	0.38	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.70	–	–	–	–	–	–	–	–	–	–
	Oct-09	3.30	–	–	–	–	–	–	–	–	–	–
	Oct-08	4.7	–	–	–	–	–	–	–	–	–	–
Zone B1 Aquifer Wells												
T-7B	Oct-13	0.34	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.41	8.4	97	–	–	–	–	–	340/330	0.15/0.19	0.22/0.20
	Oct-10	0.37	–	–	–	–	–	–	–	–	–	–
	Oct-09	0.00	–	–	–	–	–	–	–	–	–	–
	Aug-01	0.24	7.4	230	0.49	<1.0	0.13	<2.0	59	16	0.027	0.13
	Jun-01	0.00	<0.05	260	0.14	<1.0	0.024	<2.0	74	13	0.014	0.22
	Apr-01	0.00	8.0	240	0.37	<1.0	0.23	<2.0	67	41	0.046	0.30
	Feb-01	0.34	9.1	240	0.60	<1.0	0.37	<2.0	66	100	0.059	0.61
	Dec-00	0.00	<0.1	22	0.88	<1.0	0.18	<2.0	44	38	0.008	0.19
	Nov-00	1.86	13	44	0.43	<1.0	<0.01	<2.0	23	7.2	<0.005	0.030
	Sep-00	0.11	19	330	0.37	<1.0	0.15	<2.0	110	–	–	–
	Oct-99	0.01	1.4	250	0.03	<1.0	0.04	<2.0	68	50	0.049	0.25
T-2B	Oct-13	0.33	–	220	–	–	–	–	–	5,500	17	52
	May-13	1.46	–	230	–	–	–	–	–	4,900	20	40
	Oct-12	0.38	0.27 J	200	–	–	–	–	–	4,900	19	70
	Apr-12	0.58		190	–	–	–	–	–	7,000	44	60
	Oct-11	0.27	–	–	–	–	–	–	–	9,800	53	150
	May-11	0.25	–	–	–	–	–	–	–	6,000	21	130
	Mar-11	0.09	–	–	–	–	–	–	–	15,000	54	540
	11/15/2010[b]	2.4	–	–	–	–	–	–	–	11,000	21	210
	10/20/2010[c]	6.77	–	–	–	–	–	–	–	–	–	–
	10/12/2010[d]	6.82	–	–	–	–	–	–	–	12,000	21	140
	Oct-09	0.63	–	–	–	–	–	–	–	8,900	45	760
	Oct-08	0	–	–	–	–	–	–	–	12,000	26	84
	Oct-07	0.00	–	–	–	–	–	–	–	18,000	57	120
	Apr-07	0.00	–	–	–	–	–	–	–	12,000	50	47
	Oct-06	2.73	–	–	–	–	–	–	–	19,000	120	210
	Apr-06	0.00	–	–	–	–	–	–	–	11,000	63	97
	Jan-06	–	–	–	–	–	–	–	–	18,000	110	290
	Oct-05	0.28	–	150	–	14	–	–	79	19,000	110	400
	Jul-05	0.26	–	150	–	19	–	–	93	21,000	150	390
	Apr-05	0.24	–	130	–	14	–	–	96	18,000	99	720
	Jan-05	0.10	–	68	–	<1.0	–	–	85	13,000	140	320
	Oct-04	0.00	–	22	–	29	2.1	–	<1.0	14,000	210	310
	Apr-04	0.00	–	6.3	–	23	2.5	–	84	10,000	260	160
	Jan-04	0.00	–	<1.0	–	27	2.6	–	120	13,000	420	120
	Oct-03	–	–	<1.0	–	35	3.0	–	92	14,000	390	120
	Jul-03	0.00	–	4.3	–	42	3.0	–	88	14,000	370	170
	Apr-03	0.00	–	3.9	<0.050	50	0.60	–	88	12,000	180	170
	Jan-03	0.61	–	4.2	1.7	44	4.5	–	85	15,000	160	260
	Oct-02	0.00	1.3	4.5	43	48	5.3	<2.0	79	3,300	20	150
	Jul-02	–	10	5.7	55	–	–	–	82	6,000	65	700
	Apr-02	1.22	3.0	32	110	80	16	<2.0	77	1,100	0.037	55
	Jan-02	0.73	1.5	4.0	78	45	10	<2.0	89	9,600	0.24	1,200
	Oct-01	0.00	<0.10	1.2	190	190	17	<2.0	110	6,000	0.18	980
	Aug-01	2.14	2.1	4.9	140	130	13	<2.0	100	1,700	0.24	840
	Jun-01	0.00	0.10	67	20	22	2.7	<2.0	67	430	0.019	130
	Apr-01	0.00	<0.10	61	15	15	1.8	<2.0	60	1,400	0.068	450
	Feb-01	0.55	0.98	46	24	25	1.6	<2.0	80	730	0.11	470
	Dec-00	0.00	1.6	<1.0	32	29	1.9	<2.0	77	180	0.14	120
	Nov-00	0.00	<0.1	<1.0	3.4	3.2	11	6.9	66	2.2	0.048	16
	Oct-00	0.01	<0.1	270	1.2	<1.0	0.56	<2.0	73	1.0	0.065	16
	Nov-99	0.24	1.2	290	0.44	<1.0	0.28	<2.0	75	1.2	0.076	21

Historic Groundwater Electron Acceptor/Metabolic By-Product Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

		Electron Acceptors				Metabolic By-Products						
Well	Date	Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-8B	Oct-13	0.28	–	–	–	–	–	–	–	–	–	–
	Oct-12	0.33	<0.50	180	–	–	–	–	–	1,000	0.088	0.27
	Oct-11	0.1	–	–	–	–	–	–	–	840	0.094	0.450
	Oct-10	0.31	–	–	–	–	–	–	–	1,900	0.220	1.300
	Oct-09	3.96	–	–	–	–	–	–	–	490	0.081	0.045
	Oct-08	0	–	–	–	–	–	–	–	2,300	0.44	2.6
	Oct-07	2.41	–	210	–	0.5	–	–	70	3,000	0.065	0.58
	Apr-07	1.03	–	200	–	2.5	–	–	86	3,400	0.36	0.85
	Jan-07	0.00	–	190	–	<1.0	–	–	62	3,500	0.25	0.95
	Oct-06	1.62	–	220	–	2.3	–	–	70	3,300	0.072	0.73
	Jul-06	0.21	–	270	–	3.5	–	–	62	4,000	0.26	0.6
	Apr-06	0.00	–	240	–	1.9	–	–	65	5,100	0.46	3.5
	Jan-06	5.89	–	190	–	1.8	–	–	58	3,000	0.19	3.1
	Oct-05	0.00	–	200	–	2.2	–	–	69	3,000	0.44	3.4
	Jul-05	0.36	1.6	230	–	<1.0	0.91	–	68	4,500	0.50	8.0
	Apr-05	0.09	–	210	–	–	–	–	66	–	–	–
	Oct-04	0.00	–	–	–	–	–	–	–	–	–	–
	Apr-04	0.00	<0.50	190	–	–	–	–	62	3,600	0.19	7.0
	Oct-03	–	–	–	–	–	–	–	–	–	–	–
	Oct-02	0.00	4.3	200	8.6	1.6	0.85	<2.0	<1.0	580	0.025	7.5
	Jul-02	–	<0.10	190	10	–	–	–	64	3,300	0.13	33
	Mar-02	0.05	–	220	3.6	–	0.77	<2.0	66	580	0.014	9.5
	Jan-02	0.83	<0.10	210	4.0	2.2	0.82	<2.0	67	1,400	0.008	21
	Oct-01	0.00	2.6	200	3.7	2.1	0.70	<2.0	74	890	<0.005	15
	Aug-01	0.16	0.28	290	3.9	2.7	0.65	<2.0	81	600	<0.005	12
	Jun-01	0.00	0.49	270	5.6	1.9	0.68	<2.0	89	1,400	<0.005	13
	Apr-01	0.00	6.5	250	5.0	4.3	1.4	<2.0	75	2,200	<0.005	27
	Feb-01	0.29	5.7	210	7.0	7.2	1.5	<2.0	72	610	0.016	11
	Dec-00	0.07	0.62	220	0.82	<1.0	7.4	<2.0	62	71	0.032	2.5
	Nov-00	0.10	1.6	220	3.0	2.9	1.1	<2.0	70	1.3	0.037	2.0
	Oct-00	0.00	14	280	0.058	<1.0	0.43	<2.0	72	2.4	0.029	0.84
	Oct-99	3.35	4.3	300	<0.02	<1.0	0.12	<2.0	73	0.32	0.038	1.5
T-9B	Oct-13	0.64	–	–	–	–	–	–	–	–	–	–
	Oct-12	0.43	0.20 J	190	–	–	–	–	–	580	0.83	0.34
	Oct-11	0.43	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.25	–	–	–	–	–	–	–	–	–	–
	Oct-09	0.00	–	–	–	–	–	–	–	–	–	–
T-10B	Oct-13	3.32	–	–	–	–	–	–	–	–	–	–
	Oct-12	0.27	<0.50	170	–	–	–	–	–	990	1.6	0.31
	Oct-11	0.11	–	–	–	–	–	–	–	1,400	1.800	0.320
	Oct-10	0.30	–	–	–	–	–	–	–	1,700	1.200	0.360
	Oct-09	3.7	–	–	–	–	–	–	–	1,700	0.710	0.730
	Oct-08	–	–	–	–	–	–	–	–	4,000	1.6	1.4
	Jan-16	–	–	90	–	<1.0	–	–	60	6,000	4.2	0.32
	Oct-07	0.00	–	210	–	<1.0	–	–	81	3,000	0.93	0.450
	Jul-07	0.00	–	–	–	–	–	–	–	1,500	0.66	0.480
	Apr-07	0.00	–	250	–	<1.0	–	–	94	1,700	0.71	0.220
	Oct-06	1.47	–	220	–	<1.0	–	–	76	3,600	0.7	0.044
	Jul-06	0.18	–	240	–	<1.0	–	–	64	6,100	0.88	0.088
	Apr-06	0.00	–	200	–	<1.0	–	–	69	10,000	2.0	0.18
	Oct-05	0.00	–	110	–	<1.0	–	–	69	2,900	5.7	2.9
T-4B	Oct-13	3.26	–	–	–	–	–	–	–	–	–	–
	Oct-12	1.18	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.65	–	–	–	–	–	–	–	3.500	0.080	0.220
	Oct-10	1.11	–	–	–	–	–	–	–	2.900	0.078	0.200
	Oct-09	3.82	–	–	–	–	–	–	–	2.500	0.089	1.400
	Oct-08	0	–	–	–	–	–	–	–	1.5	0.096	0.2
	Oct-07	0.65	–	200	–	<1.0	–	–	68	2.2	0.120	0.400
	Jul-07	0.00	–	–	–	–	–	–	–	–	–	–
	May-07	8.33	–	–	–	–	–	–	–	0.89	0.092	0.084
	Oct-06	3.22	–	–	–	–	–	–	–	2.1	0.12	0.4
	Apr-06	0.54	–	–	–	–	–	–	–	13	0.13	0.18
	Jan-06	–	–	–	–	–	–	–	–	17	0.20	0.31
	Oct-05	0.00	–	200	–	<1.0	–	–	71	4.5	0.12	0.16
	Jul-05	0.68	1.0	220	–	<1.0	0.49	–	76	1.6	0.14	0.20
	Apr-05	0.16	–	200	–	–	–	–	60	–	–	–
	Jan-05	0.27	–	–	–	–	–	–	–	–	–	–
	Oct-04	–	1.3	200	–	–	–	–	69	–	–	–
	Apr-04	0.00	1.1	200	–	<1.0	–	–	65	2.1	0.088	0.079
	Jan-04	0.00	1.1		–	<1.0	–	–	84	3.6	0.20	0.13
	Oct-99	0.42	<0.05	280	0.3	<1.0	0.32	2.4	74	1.1	0.15	0.062

Historic Groundwater Electron Acceptor/Metabolic By-Product Results
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		Electron Acceptors				Metabolic By-Products						
Well	Date	Dissolved Oxygen (mg/L)	Nitrite and Nitrate (mg/L)	Sulfate (mg/L)	Total Iron (mg/L)	Ferrous Iron (mg/L)	Dissolved Manganese (mg/L)	Sulfide (mg/L)	Chloride (mg/L)	Methane (µg/L)	Ethane (µg/L)	Ethene (µg/L)
T-5B	Oct-13	0.25	–	–	–	–	–	–	–	–	–	–
	Oct-12	0.41	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.45	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.68	–	–	–	–	–	–	–	–	–	–
	Oct-09	4.63	–	–	–	–	–	–	–	–	–	–
T-17B	Oct-13	0.77	–	150	–	–	–	–	–	170	2.0	0.61
	May-13	0.35	–	140	–	–	–	–	–	140	2.1	0.84
	Oct-12	0.29	<0.50	130	–	–	–	–	–	190	2.8	1.7
	Apr-12	0.46	–	140	–	–	–	–	–	4.7	1.6	0.90
	Oct-11	0.15	–	–	–	–	–	–	–	1.600	0.054	0.043
	Oct-10	0.27	–	–	–	–	–	–	–	0.860	0.030	0.061
	Oct-09	3.23	–	–	–	–	–	–	–	2.9	0.045	0.070
	Oct-08	8.18	–	–	–	–	–	–	–	8.7	0.11	0.039
	Oct-07	0.00	–	150	–	<0.05	–	–	72	2.0	0.052	0.300
	Jul-07	0.00	–	–	–	–	–	–	–	–	–	–
	May-07	0.00	–	–	–	–	–	–	–	1.9	0.093	0.056
	Oct-06	3.15	–	–	–	–	–	–	–	1.2	0.056	0.028
	Jul-06	0.23	–	–	–	–	–	–	–			
	Apr-06	0.00	–	–	–	–	–	–	–	7.0	0.078	0.13
	Jan-06	5.35	–	–	–	–	–	–	–	5.0	0.081	0.11
T-18B	Oct-13	0.72	–	–	–	–	–	–	–	–	–	–
	May-13	0.17	–	–	–	–	–	–	–	–	–	–
T-19B	Oct-13	0.32	–	–	–	–	–	–	–	–	–	–
	May-13	0.13	–	–	–	–	–	–	–	–	–	–
Zone B2 Aquifer Wells												
T-2C	Oct-13	6.06	–	–	–	–	–	–	–	–	–	–
	Oct-12	1.60	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.88	–	–	–	–	–	–	–	–	–	–
	Oct-10	6.31	–	–	–	–	–	–	–	–	–	–
	Oct-09	0.00	–	–	–	–	–	–	–	–	–	–
	Oct-08	1.65	–	–	–	–	–	–	–	–	–	–
	Oct-07	3.81	–	–	–	–	–	–	–	–	–	–
	Oct-01	0.00	1.5	170	0.13	<1.0	0.16	<2.0	70	5.0	0.069	4.0
T-9C	Oct-13	0.36	–	–	–	–	–	–	–	–	–	–
	Oct-12	0.51	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.60	–	–	–	–	–	–	–	–	–	–
	Oct-10	1.32	–	–	–	–	–	–	–	–	–	–
	Oct-09	0.00	–	–	–	–	–	–	–	–	–	–
T-10C	Oct-13	0.52	–	–	–	–	–	–	–	–	–	–
	Oct-12	3.01	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.50	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.32	–	–	–	–	–	–	–	–	–	–
	Oct-09	4.48	–	–	–	–	–	–	–	–	–	–
T-11C	Oct-13	0.24	–	–	–	–	–	–	–	–	–	–
	Oct-12	0.42	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.55	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.39	–	–	–	–	–	–	–	–	–	–
	Oct-09	0.27	–	–	–	–	–	–	–	–	–	–
T-12C	Oct-13	0.34	–	–	–	–	–	–	–	–	–	–
	Oct-12	1.70	–	–	–	–	–	–	–	–	–	–
	Oct-11	0.42	–	–	–	–	–	–	–	–	–	–
	Oct-10	0.86	–	–	–	–	–	–	–	–	–	–
	Oct-09	6.21	–	–	–	–	–	–	–	–	–	–

Notes:
[a] One month post EVO injection (just before pure soybean oil injection)
[b] Immediately after EVO injection
[c] Immediately before EVO injection
mg/L = milligram per liter
µg/L = microgram per liter
– = not analyzed/measured

Historic Groundwater Dechlorinating Microbe Results
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Well	Date	Dechlorinating Microbes	Dechlorinating Genes		
		Dehalococcodies type Microbes	*tceA*	*bvcA*	*vcrA*
		cells/mL			
Eductor	10/17/2013	1.47E+01	--	--	--
	10/17/2012	4.88E+02	2.06E+02	3.20E+00	1.80E+00(J)
	10/17/2011	8.35E+01	3.39E+01	9.00E-01 (J)	5.80E+00
	10/13/2010	2.78E+06	1.62E+06	5.54E+05	4.03E+05
	10/8/2009	3.49E+04	9.10E+03	7.86E+03	2.12E+03
	10/21/2008	2.89E+05	--	--	--
	4/30/2007	4.04E+05	--	--	--
	10/17/2006	1.10E+06	--	--	--
	4/13/2006	5.92E+04	--	--	--
	9/12/2005	5.64E+04	--	--	--
T-2A	10/17/2013	6.22E+02	--	--	--
	10/17/2012	1.23E+05	3.09E+04	1.29E+02	1.65E+04
	10/17/2011	2.67E+05	1.26E+05	6.08E+02	1.54E+05
	10/13/210	1.10E+03	1.12E+02	1.42E+02	7.86E+02
	10/8/2009	5.87E+02	2.01E+01	6.29E+01	5.28E+02
	10/21/2008	6.69E+02	--	--	--
	4/9/2008	2.26E+02	1.65E+01	3.93E+00	2.73E+02
T-2B	10/17/2013	4.93E+01	--	--	--
	10/17/2012	8.48E+02	4.00E+02	3.30E+00	4.86E+01
T-7A	10/17/2012	2.39E+03	2.34E+01	1.78E+01	<5.00E-01
	10/17/2012	2.30E+03	8.10E+00	1.64E+01	<5.00E-01
T-7B	10/16/2012	9.06E+02	6.00E-01	2.10E+00	3.52E+01
	10/16/2012	6.93E+02	1.80E+00	2.70E+00	2.32E+01
T-8A	10/15/2012	6.30E+01	1.12E+01	8.20E+00	1.60E+00
	10/21/2008	1.52E+02	--	--	--
	4/9/2008	1.35E+02	1.19E+01	1.21E+01	1.29E+02
	10/10/2007	9.48E+03	--	--	--
	4/30/2007	3.50E+00	--	--	--
	10/16/2006	2.29E+02	--	--	--
	4/13/2006	1.38E+03	--	--	--
	11/7/2005	1.01E+02	--	--	--
T-9A	10/16/2012	3.45E+01	2.43E+01	<5.00E-01	1.00E+00
T-9B	10/16/2012	1.02E+04	5.72E+02	5.47E+02	1.74E+02
T-10B	10/16/2012	1.00E+00(J)	<5.00E-01	<5.00E-01	<5.00E-01
T-13A	10/17/2013	6.97E+02	--	--	--
	10/15/2012	4.70E+03	4.36E+03	1.40E+03	1.03E+03
	10/21/2008	3.08E+01	--	--	--
	4/9/2008	7.65E+00	5.80E-01	1.07E+01	9.45E+00
	10/10/2007	<4.17E+00	--	--	--
	4/30/2007	<4.95E-01	--	--	--
	10/16/2006	5.54E+00	--	--	--
	4/13/2006	5.48E+01	--	--	--
	11/7/2005	6.45E-01	--	--	--
T-14A	11/7/2005	1.69E+01	--	--	--
T-15A	10/16/2012	<5.00E-01	<5.00E-01	<5.00E-01	<5.00E-01
	5/1/2007	1.59E+01	--	--	--
	10/17/2006	1.01E+03	--	--	--
	4/13/2006	1.21E+04	--	--	--

Historic Groundwater Dechlorinating Microbe Results
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Well	Date	Dechlorinating Microbes	Dechlorinating Genes		
		Dehalococcodies type Microbes	*tceA*	*bvcA*	*vcrA*
		cells/mL			
T-17A	10/15/2012	2.00E-01(J)	<5.00E-01	<5.00E-01	<5.00E-01
T-17B	10/15/2012	3.35E+01	<5.00E-01	<5.00E-01	<5.00E-01
T-19A	10/17/2013	1.20E+01	--	--	--
	10/15/2012	3.34E+02	2.91E+01	4.66E+01	1.41E+01
	10/17/2011	4.15E+03	7.59E+02	2.64E+02	8.23E+02
	4/9/2008	1.33E+03	2.38E+02	3.53E+02	1.01E+03
	10/10/2007	<4.35E+00	--	--	--
T-23A	10/17/2013	2.33E+03	--	--	--
	10/15/2012	2.25E+02	3.09E+01	5.90E+00	1.12E+01
	10/21/2008	2.72E+01	--	--	--
	4/9/2008	2.11E+01	2.31E+00	1.00E+01	1.92E+01
	10/10/2007	<1.49E+00	--	--	--
T-25A	10/21/2008	3.77E+02	--	--	--
	4/9/2008	1.65E+02	2.79E+01	1.65E+01	1.27E+02
	10/10/2007	1.10E+00	--	--	--
T-2B	10/17/2011	5.20E+03	2.46E+03	4.07E+01	2.76E+03
T-8B	10/16/2012	4.14E+01	4.90E+00	4.60E+00	<4.00E-01
	4/30/2007	8.77E+00	--	--	--
	10/17/2006	1.21E+02	--	--	--
	4/13/2006	4.43E+00	--	--	--
38S	10/16/2012	1.19E+03	5.20E+01	6.40E+01	3.10E+00

Notes:
cells/mL = cells per milliliter
DUP = duplicate sample

Compound-Specific Stable Carbon Isotope Analysis Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Concentration (µg/L)			$\delta^{13}C$ ($^{0}/_{00}$)		
		TCE	cDCE	VC	TCE	cDCE	VC
T-7A	10/16/2013	190	80	--	-21.58	-22.72	--
	10/16/2013 (Dup)	190	82	--	-21.82	-22.86	--
	10/17/2012	70.0	270	--	-21.88	-22.28	--
	10/19/2011	120	150	2 J	-22.44	-22.27	-12.91
	10/20/2008	400	70	--	-21.99	-23.24	--
	4/10/2008	200	80	--	-21.92	-22.38	--
	10/9/2007	400	90	--	-22.17	-23.03	--
	5/1/2007	300	70	--	-22.67	-21.54	--
Eductor	10/17/2013	5,800	60,000	--	-18.77	-24.33	--
	10/17/2012	830	67,000	6,000	-16.82	-25.76	-26.16
	10/17/2011	45	8,900	1,700	-18.46	-25.31	-28.99
	10/12/2010	4,000 J	100,000	91,000	NE*	-18.96	-27.05
	10/8/2009	30	80,000	--	NE*	-21.21	--
	10/21/2008	100,000	20,000	--	-25.37	-19.39	--
	4/9/2008	30,000	9,000	--	-25.43	-18.12	--
	11/21/2007	<1,000	30,000	--	-21.41	-14.95	--
	4/30/2007	6	30,000	--	NE*	-9.07	--
T-2A	10/17/2013	0.9 J	250	--	-16.17	-3.23	--
	10/17/2012	0.5 J	130	120	--	-6.42	-18.47
	10/17/2011	0.4 J	12	16	-18.85	2.21	-6.29
	10/12/2010	4 J	10,000	13,000	NE*	-11.85	-29.73
	10/8/2009	2 JM	1,000 M	--	NE*	-14.14	--
	10/21/2008	6	100	--	-15.34	-11.32	--
	4/9/2008	<5	100	--	-17.89	-11.87	--
	10/9/2007	<5	700	--	NE*	-18.08	--
	4/30/2007	<5	200	--	-9.65	-12.61	--
T-3A	10/15/2013	150	66	--	-21.65	-21.80	--
	11/16/2011	150	45	--	-22.5	-24.06	--
	10/20/2008	200	9	--	-22.91	-24.23	--
	4/10/2008	100	6	--	-22.60	-23.95	--
	10/9/2007	210	20	--	-22.68	-25.00	--
	5/1/2007	300	40	--	-22.82	-22.45	--
T-8A	10/16/2013	140	80	--	-21.95	-20.67	--
	10/15/2012	140	81	--	-22.19	-20.97	--
	10/18/2011	120	58	1.8J	-22.29	-20.5	-33.06
	10/21/2008	100	30	--	-22.06	-20.58	--
	4/9/2008	20	7	--	-21.61	-14.99	--
	10/10/2007	90	80	--	-21.82	-17.45	--
	4/30/2007	200	60	--	-21.81	-20.23	--
T-16A	5/1/2007	100	60	--	-22.46	-18.12	--
T-6A	5/1/2007	10	20	--	-21.18	-24.28	--
T-9A	10/15/2013	56	70	--	-22.05	-16.47	--
	10/16/2012	56.0	96	--	-22.81	-20.22	--
	10/19/2011	78	110	3.9J	-22.95	-19.83	-25.57
	10/21/2008	70	100	--	-22.67	-17.58	--
	4/10/2008	60	100	--	-22.43	-22.38	--
	5/1/2007	100	80	--	-23.08	-19.43	--

Compound-Specific Stable Carbon Isotope Analysis Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Concentration (µg/L)			$\delta^{13}C$ ($^{0}/_{00}$)		
		TCE	cDCE	VC	TCE	cDCE	VC
T-13A	10/17/2013	1.3 J	54	--	-11.47	-1.86	--
	10/15/2012	1.9 J	23	30	--	9.45	-0.93
	10/19/2011	63	62	15	-22.09	-15.39	-25.31
	10/23/2008	60	20	--	-21.78	-13.71	--
	4/9/2008	<20	30	--	-22.20	-14.32	--
	10/10/2007	50	300	--	-20.01	-22.26	--
T-17A	10/15/2012	96	5	--	-22.82	-23.68	--
T-19A	10/15/2012	1 J	7.0	8	--	0.73	-13.25
	10/17/2011	4.7J	15	16	-17.62	-2	-4.94
T-23A	10/18/2011	70	43	3.8	-24.74	-20.85	-24.78
	10/23/2008	70	20	--	-21.75	-12.26	--
	4/9/2008	10	30	--	-25.70	-8.44	--
	10/10/2007	200	100	--	-21.37	-23.65	--
T-25A	10/18/2011	44	45	2.9J	-22.84	-18.37	-20.85
	10/23/2008	80	50	--	-21.58	-15.91	--
	4/9/2008	20	40	--	-20.98	-17.97	--
	10/10/2007	70	200	--	-22.20	-21.70	--
T-38S	10/16/2012	97	200	21	-21.29	-21.13	-26.65
T-2B	10/17/2013	0.6 J	110		-12.70	-6.75	--
	10/17/2012	0.8 J	88.0	200	--	-5.03	-19.4
T-4B	10/16/2013	6	480	--	-11.41	-20.46	--
T-5B	10/16/2013	1,400	71	--	-20.86	-23.93	--
T-9B	10/16/2013	290	190	--	-23.39	-23.72	--
	10/16/2012	130	370	9	-23.40	-25.07	-21.46
	10/19/2011	89	270	7.1	-24.03	-25.19	-17.23
T-7B	10/15/2013	180	13	--	-18.43	-18.43	--
	10/16/2012	190	18	--	-22.77	-17.88	--
	10/18/2011	150	12	1.3	-23.72	-18.40	--
T-8B	10/15/2013	22	230	--	-20.13	-21.56	--
	10/16/2012	28	280	22	-20.64	-21.76	-29.42
	10/18/2011	20	180	24	-21.50	-21.63	-29.55
T-10B	10/15/2013	14	46	--	-20.20	-13.82	--
	10/16/2012	55	160	42	-22.92	-16.22	-26.51
T-17B	10/17/2013	150	350	--	-21.23	-20.93	--
	10/15/2012	260	220	--	-21.34	-21.95	--
T-18B	10/14/2013	<5.0 (U)	<5.0 (U)	--	--	--	--
T-19B	10/14/2013	59	2.2 (J)	--	-20.78	-23.63	--

Notes:
* = Concentration too low to quantify carbon-13 ratio
µg/L = Microgram per liter
$^{0}/_{00}$ = Per mil
J = Estimated value
M = Recovery/RPD poor for MS/MSD, SAMP/DUP
NE = Not estimated
-- = Not Analyzed

Historic Groundwater Fatty Acid Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Lactic Acid (mg/L)	Butyric Acid (mg/L)	Pyruvic Acid (mg/L)	Propionic Acid (mg/L)	Acetic Acid (mg/L)
Zone A Aquifer Wells						
T-7A	6/20/2001	<25	<1.0	<10	<1.0	<1.0
EDUCTOR	10/2/2003	<25	--	--	--	190
	7/16/2003	404,000	--	--	--	340
	4/17/2003	<25	--	--	--	720
	1/23/2003	<25	--	--	--	1,500
	10/2/2002	3,200	--	--	--	1,500
	7/13/2002	<25	550	<10	460	220
	3/31/2002	<25	--	--	--	780
	1/23/2002	14,000	3,700	31	1,600	480
	11/29/2001	2,400	--	--	--	480
	10/4/2001	7,500	3,700	36	750	400
	8/1/2001	950	--	--	--	460
	6/21/2001	<25	--	--	--	110
T-2A	10/2/2003	<25	--	--	--	<1.0
	7/16/2003	<25	--	--	--	<1.0
	4/17/2003	<25	--	--	--	6.3
	1/23/2003	<25	--	--	--	32
	10/2/2002	<25	120	<10	750	620
	7/13/2002	<25	--	--	--	310
	4/18/2002	<25	--	--	--	170
	11/29/2001	<25	--	--	--	110
	10/4/2001	<25	--	--	--	320
	8/1/2001	<25	--	--	--	320
	6/21/2001	<25	--	--	--	170
	3/17/2001	<25	--	--	--	130
	1/24/2001	<25	--	--	--	160
T-8A	10/21/2008	<25	--	--	--	<1.0
	10/10/2007	<25	<1.0	<10	<1.0	<1.0
	10/2/2002	<25	--	--	--	<1.0
	7/13/2002	<25	--	--	--	<1.0
	3/31/2002	<25	<1.0	<10	<1.0	<1.0
	1/23/2002	<25	--	--	--	<1.0
	11/29/2001	<25	--	--	--	<1.0
	10/2/2001	<25	<1.0	<10	<1.0	1.2
	8/1/2001	<25	--	--	--	<1.0
	6/20/2001	<25	--	--	--	<1.0
T-13A	10/23/2008	<25	--	--	--	<1.0
	10/10/2007	<25	--	--	--	260
T-19A	10/23/2008	<25	<1.0	12	<1.0	<1.0
	10/10/2007	<250	1100	<100	880	2100
	9/6/2007	<25	<1.0	<10	<1.0	<1.0
T-23A	10/23/2008	<25	<1.0	<10	<1.0	<1.0
	10/10/2007	<25	62	<10	37	160
	9/6/2007	<25	<1.0	<10	<1.0	<1.0
T-25A	10/25/2008	<25	<1.0	<10	<1.0	<1.0
	10/10/2007	<25	<1.0	<10	3.5	28
	9/6/2007	<25	<1.0	<10	<1.0	<1.0

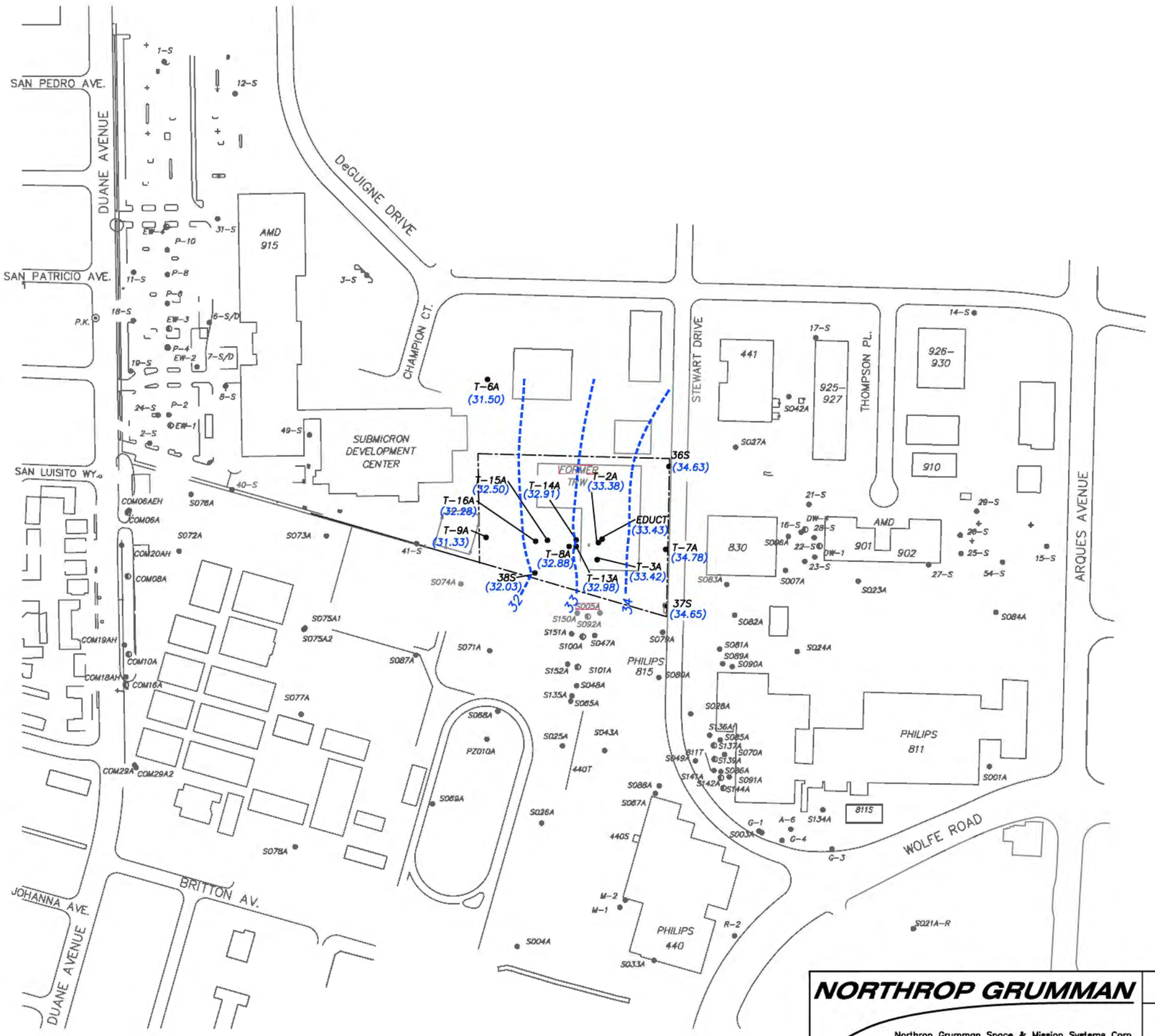
Historic Groundwater Fatty Acid Results
Former TRW Microwave Facility
825 Stewart Drive, Sunnyvale, California

Well	Date	Lactic Acid (mg/L)	Butyric Acid (mg/L)	Pyruvic Acid (mg/L)	Propionic Acid (mg/L)	Acetic Acid (mg/L)
Zone B1 Aquifer Wells						
T-7B	8/20/2001	<25	<1.0	<10	<1.0	<1.0
	6/20/2001	<25	<1.0	<10	<1.0	<1.0
	4/18/2001	<25	<1.0	<10	<1.0	<1.0
	2/20/2001	<25	<1.0	<10	<1.0	<1.0
	12/29/2000	<25	<1.0	<10	<1.0	<1.0
	11/15/2000	<25	<1.0	<10	<1.0	<1.0
	9/12/2000	<25	<1.0	<10	<1.0	<1.0
T-2B	10/2/2003	<25	<1.0	<10	<1.0	<1.0
	7/16/2003	<25	<1.0	<10	<1.0	<1.0
	4/17/2003	<25	<1.0	<10	<1.0	<1.0
	1/23/2003	<25	<1.0	<10	<1.0	<1.0
	10/2/2002	<25	13	<10	130	110
	7/13/2002	<25	120	<10	200	200
	4/18/2002	<25	300	<10	600	390
	1/23/2002	<25	340	<10	580	290
	10/4/2001	<25	860	<10	1,100	1,100
	8/20/2001	35	570	<10	680	580
	6/21/2001	<25	<1.0	<10	<1.0	<1.0
	4/18/2001	<25	7.5	<10	52	65
	2/20/2001	<25	58	<10	120	160
	12/29/2000	<25	77	<10	320	400
	11/15/2000	<25	16	<10	180	290
	10/2/2000	<25	<1.0	<10	<1.0	<1.0
T-8B	10/2/2002	<25	<1.0	<10	<1.0	<1.0
	7/13/2002	<25	<1.0	<10	<1.0	<1.0
	3/31/2002	<25	<1.0	<10	<1.0	<1.0
	1/23/2002	<25	<1.0	<10	<1.0	<1.0
	10/4/2001	<25	<1.0	<10	<1.0	1.7
	8/20/2001	<25	<1.0	<10	<1.0	<1.0
	6/20/2001	<25	<1.0	<10	<1.0	<1.0
	4/18/2001	<25	<1.0	<10	<1.0	<1.0
	2/20/2001	<25	<1.0	<10	15	16
	12/29/2000	<25	<1.0	<10	6.8	<1.0
	11/15/2000	<25	<1.0	<10	10	7.7
	10/2/2000	<25	<1.0	<10	<1.0	<1.0
Zone B2 Aquifer Wells						
T-2C	10/4/2001	<25	<1.0	<10	<1.0	<1.0

Notes:
mg/L = milligram per liter

APPENDIX I

SELECTED POTENTIOMETRIC CONTOUR FIGURES



LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE A MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE A EXTRACTION WELL
- *(31.50)* INDICATES WATER–LEVEL ELEVATION IN ZONE A MONITORING WELL (FEET, MSL & NAVD 88) IN OCTOBER 2009
- ---------- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE A IN OCTOBER 2009

NORTHROP GRUMMAN

Northrop Grumman Space & Mission Systems Corp.

FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE A
OCTOBER 2009

DATE 01–10

FIGURE 2

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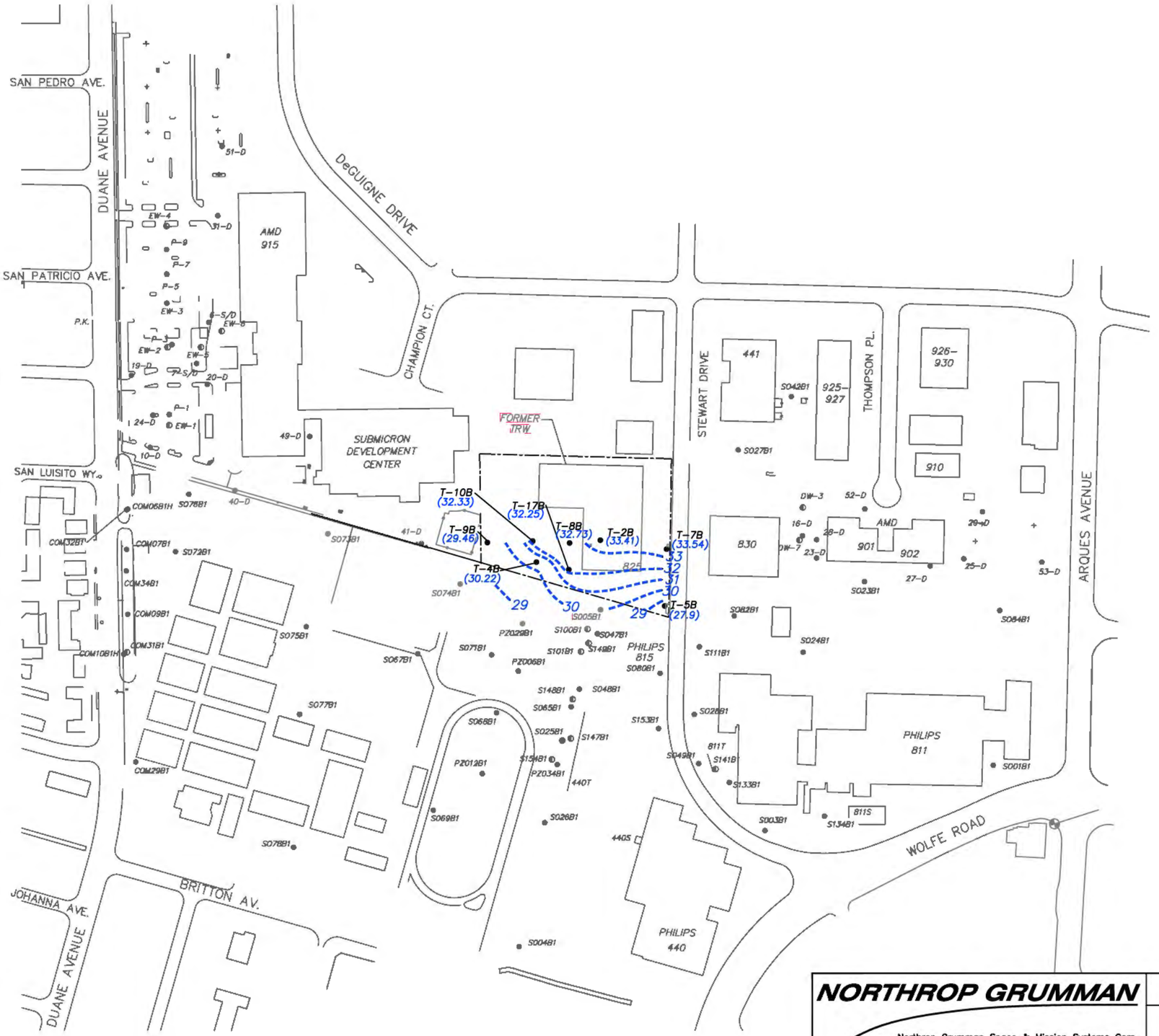


LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE B1 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B1 EXTRACTION WELL
- (31.28) INDICATES WATER–LEVEL ELEVATION IN ZONE B1 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2009
- ---------- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B1 IN OCTOBER 2009

NORTHROP GRUMMAN

Northrop Grumman Space & Mission Systems Corp.

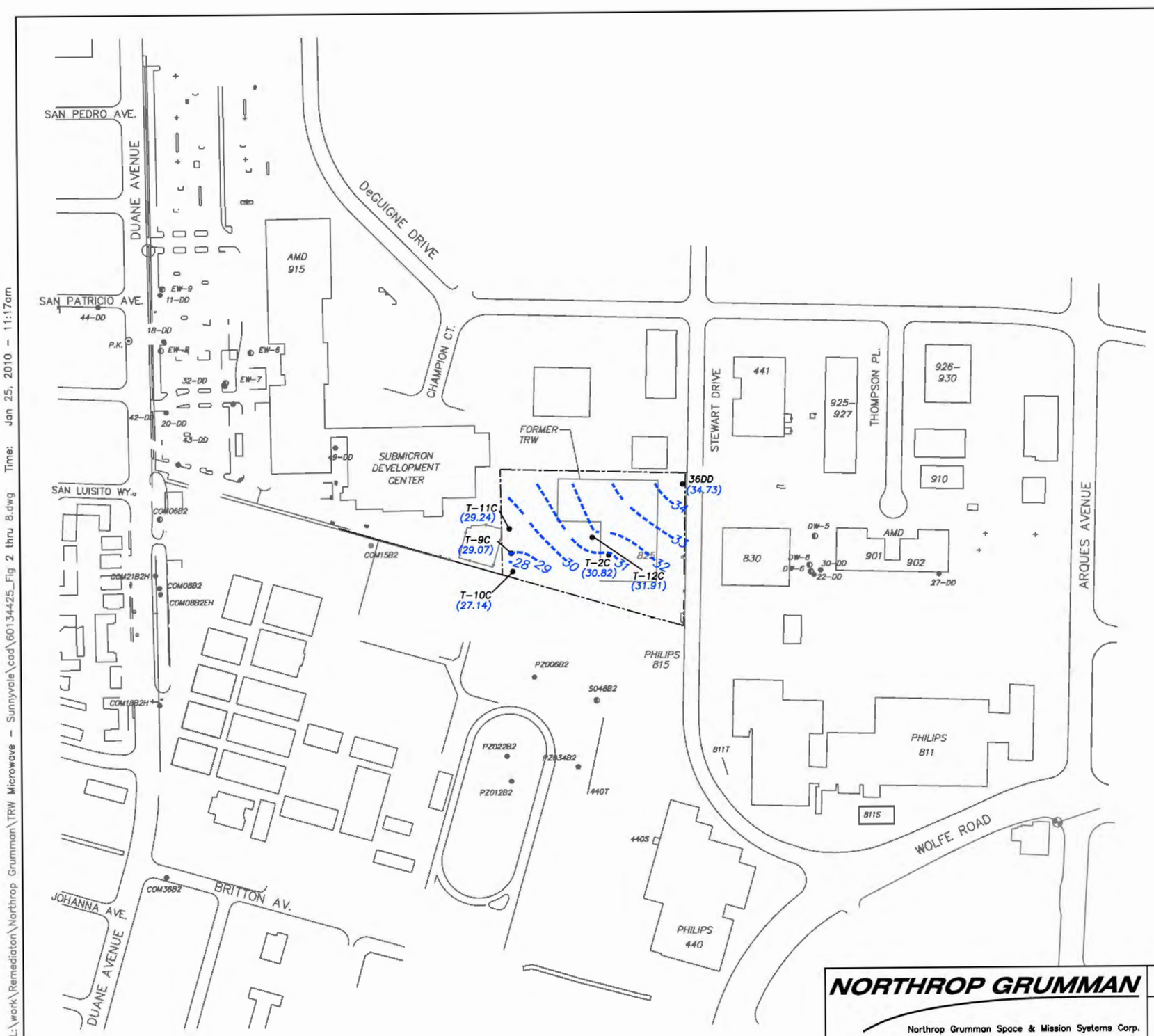
FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B1
OCTOBER 2009

DATE 01–10

FIGURE 3

File: L:\work\Remediation\Northrop Grumman\TRW Microwave – Sunnyvale\cad\60134425_Fig 2 thru 8.dwg Time: Jan 25, 2010 – 11:16am



LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE B2 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B2 EXTRACTION WELL
- (30.10) INDICATES WATER-LEVEL ELEVATION IN ZONE B2 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2009
- ---------- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B2 IN OCTOBER 2009

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
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FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B2
OCTOBER 2009

DATE 01-10

FIGURE 4

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LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE A MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE A EXTRACTION WELL
- *(31.50)* INDICATES WATER-LEVEL ELEVATION IN ZONE A MONITORING WELL (FEET, MSL & NAVD 88) IN OCTOBER 2010
- ---------- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE A IN OCTOBER 2010

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
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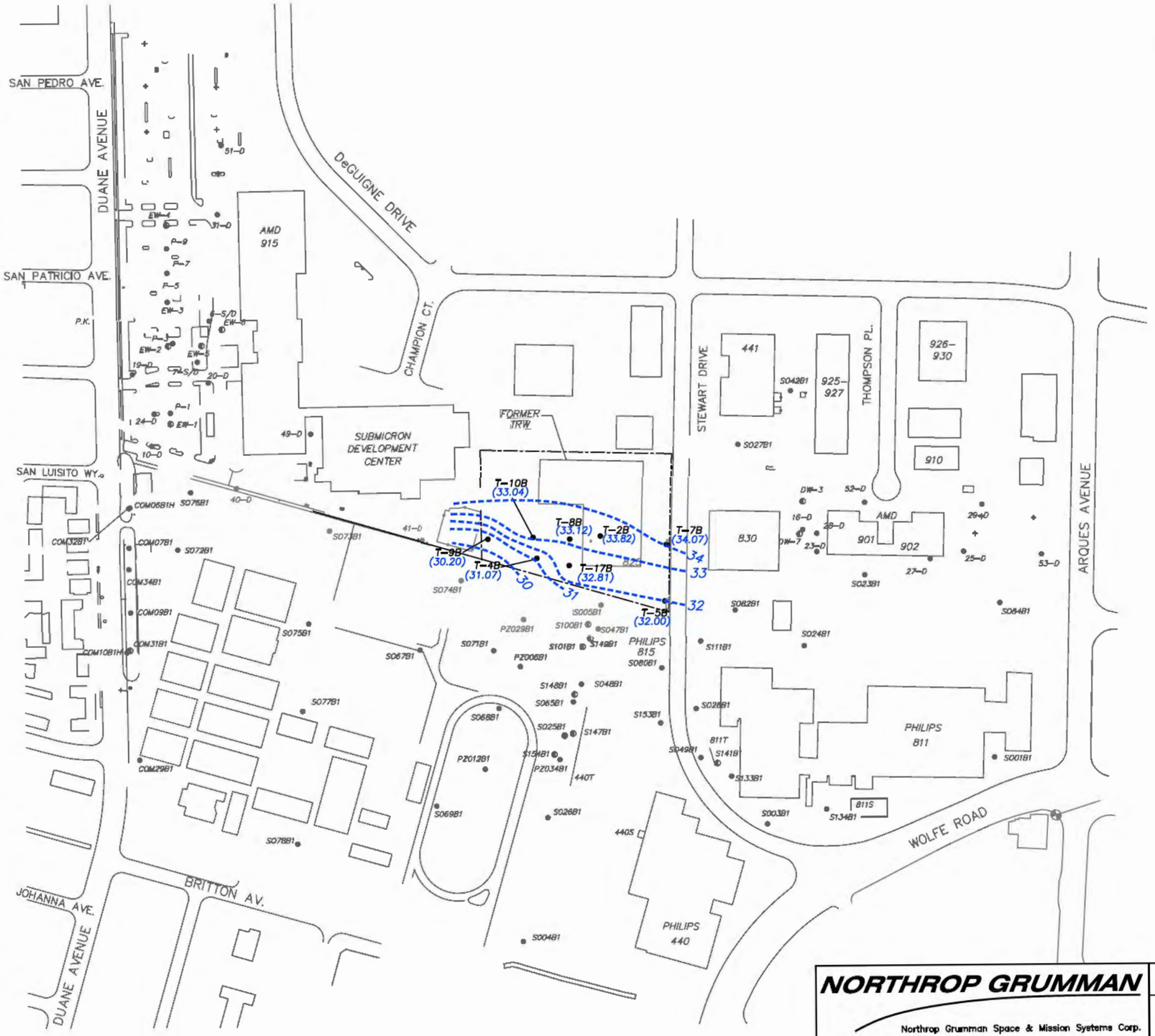
FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE A
OCTOBER 2010

DATE 12-6-2010

FIGURE 2



LEGEND:

- • INDICATES APPROXIMATE LOCATION OF ZONE B1 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B1 EXTRACTION WELL
- (31.28) INDICATES WATER–LEVEL ELEVATION IN ZONE B1 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2010
- ---------- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B1 IN OCTOBER 2010

SCALE
0 300 600 FEET

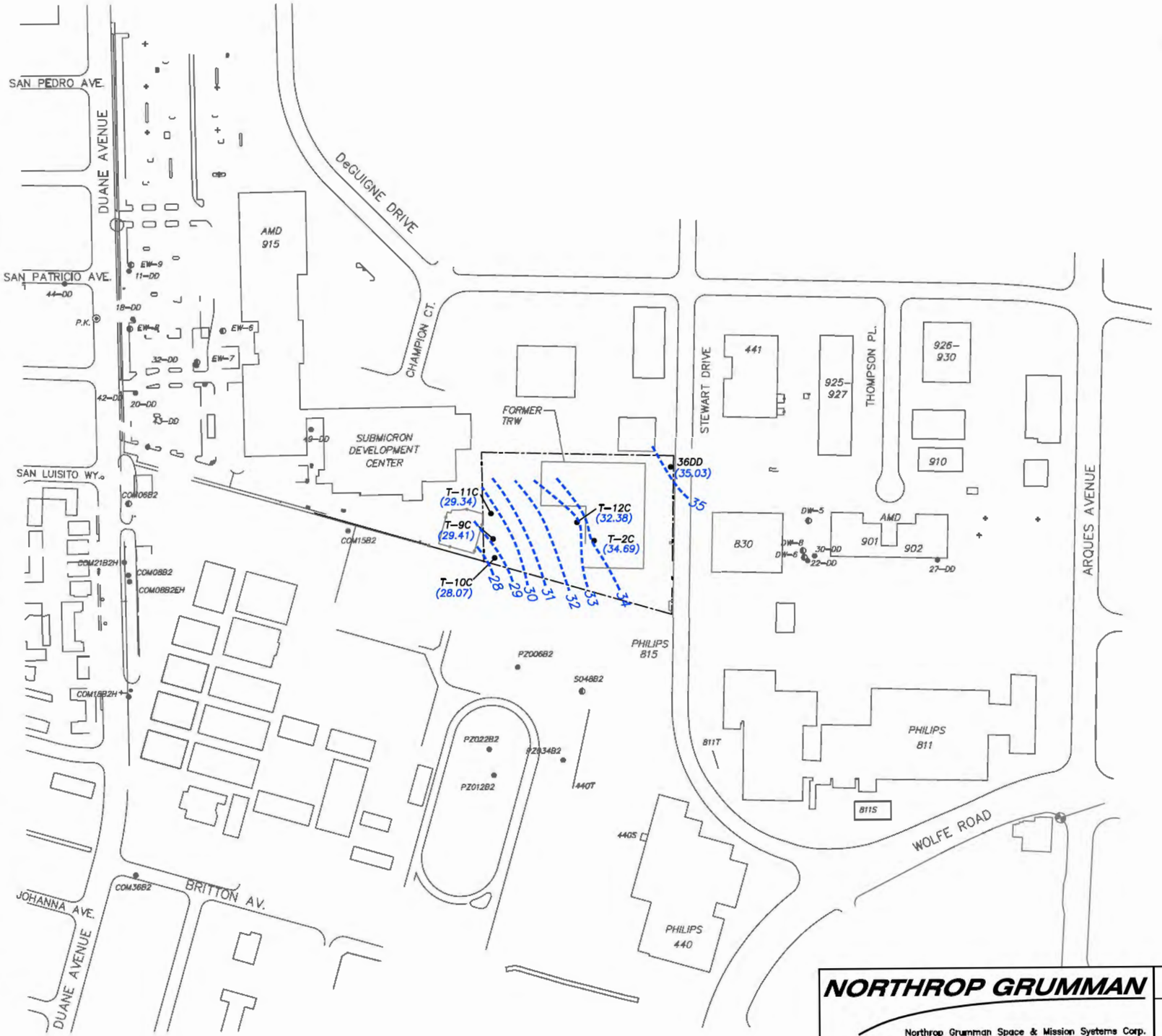
NORTHROP GRUMMAN
Northrop Grumman Space & Mission Systems Corp.

FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B1
OCTOBER 2010

DATE 12–6–2010

FIGURE 3



LEGEND:

- • INDICATES APPROXIMATE LOCATION OF ZONE B2 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B2 EXTRACTION WELL
- (30.10) INDICATES WATER-LEVEL ELEVATION IN ZONE B2 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2010
- ---------- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B2 IN OCTOBER 2010

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
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FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B2
OCTOBER 2010

DATE 12-6-2010

FIGURE 4

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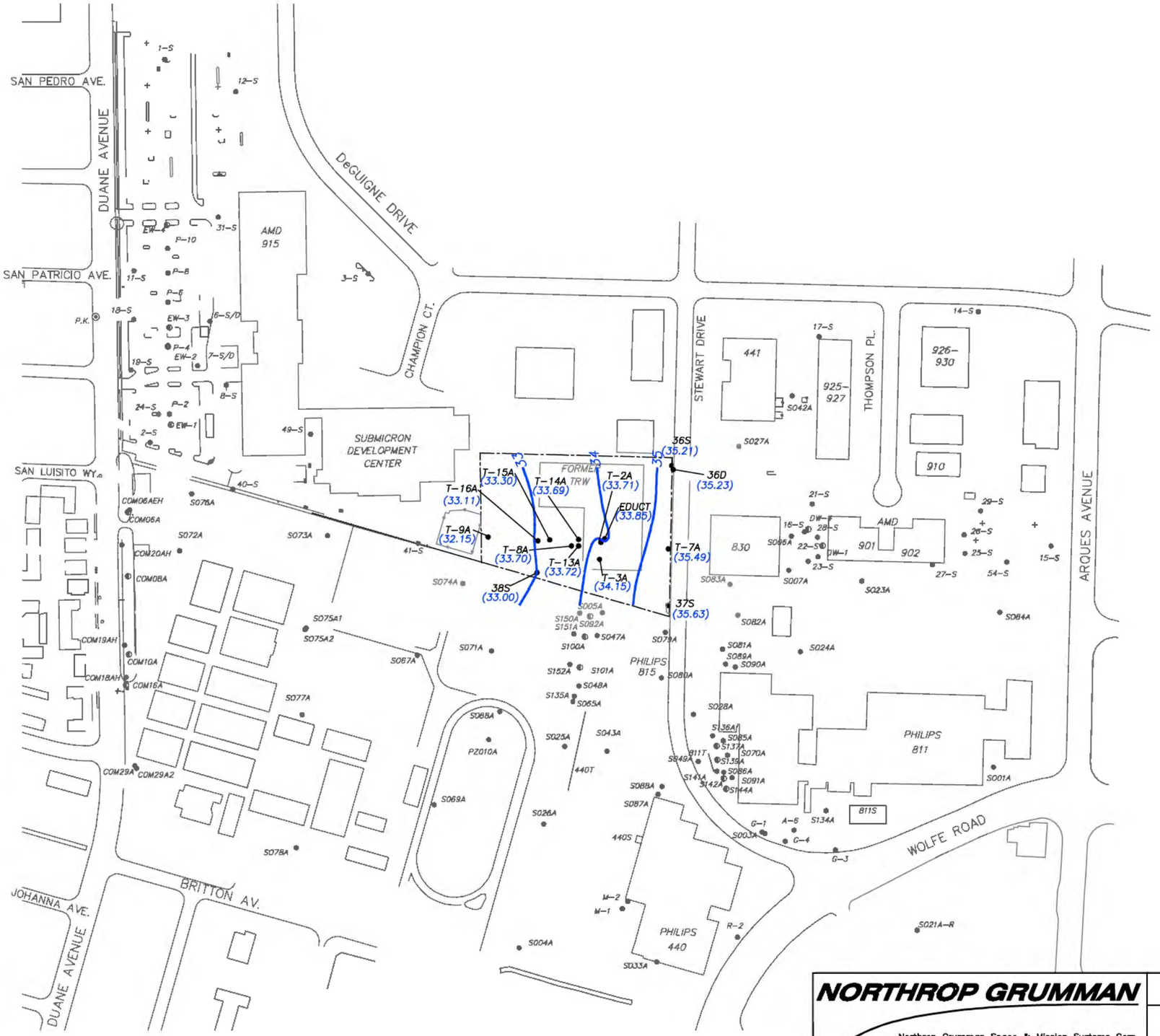

LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE A MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE A EXTRACTION WELL
- (35.21) INDICATES WATER–LEVEL ELEVATION IN ZONE A MONITORING WELL (FEET, MSL & NAVD 88) IN OCTOBER 2011
- ——— INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE A IN OCTOBER 2011

N

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
Northrop Grumman Space & Mission Systems Corp.

FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE A
OCTOBER 2011

DATE 01–18–2012

FIGURE 2

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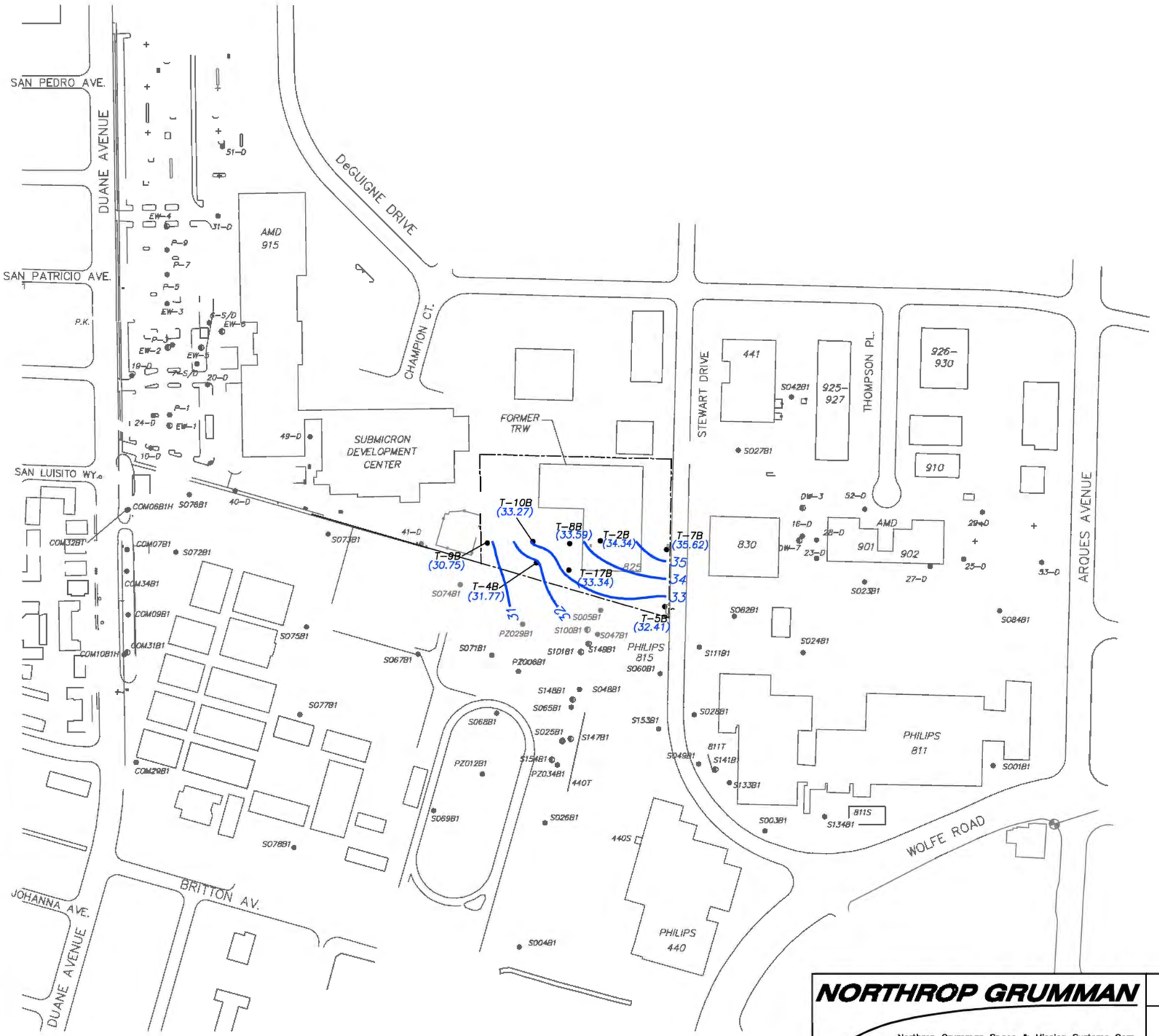

LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE B1 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B1 EXTRACTION WELL
- (30.75 INDICATES WATER–LEVEL ELEVATION IN ZONE B1 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2011
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B1 IN OCTOBER 2011

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
Northrop Grumman Space & Mission Systems Corp.

FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B1
OCTOBER 2011

DATE 01–18–2012

FIGURE 3

File: W:\work\60147454\CADD\2011\Projects\60134425 – 2010 – Fig 2 thru 8.dwg Time: Jan 19, 2012 – 2:40pm

LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE B2 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B2 EXTRACTION WELL
- (30.82) INDICATES WATER–LEVEL ELEVATION IN ZONE B2 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2011
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B2 IN OCTOBER 2011

SAN PEDRO AVE.
DUANE AVENUE
SAN PATRICIO AVE.
SAN LUISITO WY.
DeGUIGNE DRIVE
CHAMPION CT.
AMD 915
EW-9
11-DD
44-DD
18-DD
P.K.
EW-8
EW-6
EW-7
32-DD
42-DD
20-DD
43-DD
49-DD
SUBMICRON DEVELOPMENT CENTER
FORMER TRW
COM06B2
COM15B2
COM21B2H
COM08B2
COM08B2EH
COM18B2H
COM36B2
JOHANNA AVE.
BRITTON AV.
DUANE AVENUE
T-11C (30.70)
T-9C (30.82)
T-10C (29.84)
T-12C (33.58)
T-2C (33.02)
36DD (35.86)
30
31
32
33
34
35
STEWART DRIVE
441
925–927
THOMPSON PL.
926–930
910
DW-5
AMD
901
902
830
DW-8
DW-6
30-DD
22-DD
27-DD
ARQUES AVENUE
PZ006B2
S048B2
PZ022B2
PZ034B2
PZ012B2
440T
PHILIPS 815
PHILIPS 811
811T
811S
PHILIPS 440
440S
WOLFE ROAD

N

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
Northrop Grumman Space & Mission Systems Corp.

FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B2
OCTOBER 2011

DATE 01–18–2012

FIGURE 4

LEGEND:

- ● INDICATES APPROXIMATE LOCATION OF ZONE A MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE A EXTRACTION WELL
- (34.13) INDICATES WATER-LEVEL ELEVATION IN ZONE A MONITORING WELL (FEET, MSL & NAVD 88) IN OCTOBER 2012
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE A IN OCTOBER 2012

SCALE
0 300 600 FEET

NORTHROP GRUMMAN Northrop Grumman Space & Mission Systems Corp.	FORMER TRW MICROWAVE FACILITY POTENTIOMETRIC SURFACE CONTOURS ZONE A OCTOBER 2012	DATE 11-30-2012 FIGURE 3

File: W:\work\60147454\CADD\2012\Projects\60134425 - 2010 - Fig 2 thru 8.dwg Time: Jan 25, 2013 - 8:35am

LEGEND:

- • INDICATES APPROXIMATE LOCATION OF ZONE B1 MONITORING WELL
- ◐ INDICATES APPROXIMATE LOCATION OF ZONE B1 EXTRACTION WELL
- (34.15) INDICATES WATER-LEVEL ELEVATION IN ZONE B1 MONITORING WELL (FEET, MSL & NAVD88) IN OCTOBER 2012
- INDICATES APPROXIMATE POTENTIOMETRIC SURFACE CONTOUR IN ZONE B1 IN OCTOBER 2012

SCALE
0 300 600 FEET

NORTHROP GRUMMAN
Northrop Grumman Space & Mission Systems Corp.

FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B1
OCTOBER 2012

DATE 11-30-2012
FIGURE 4

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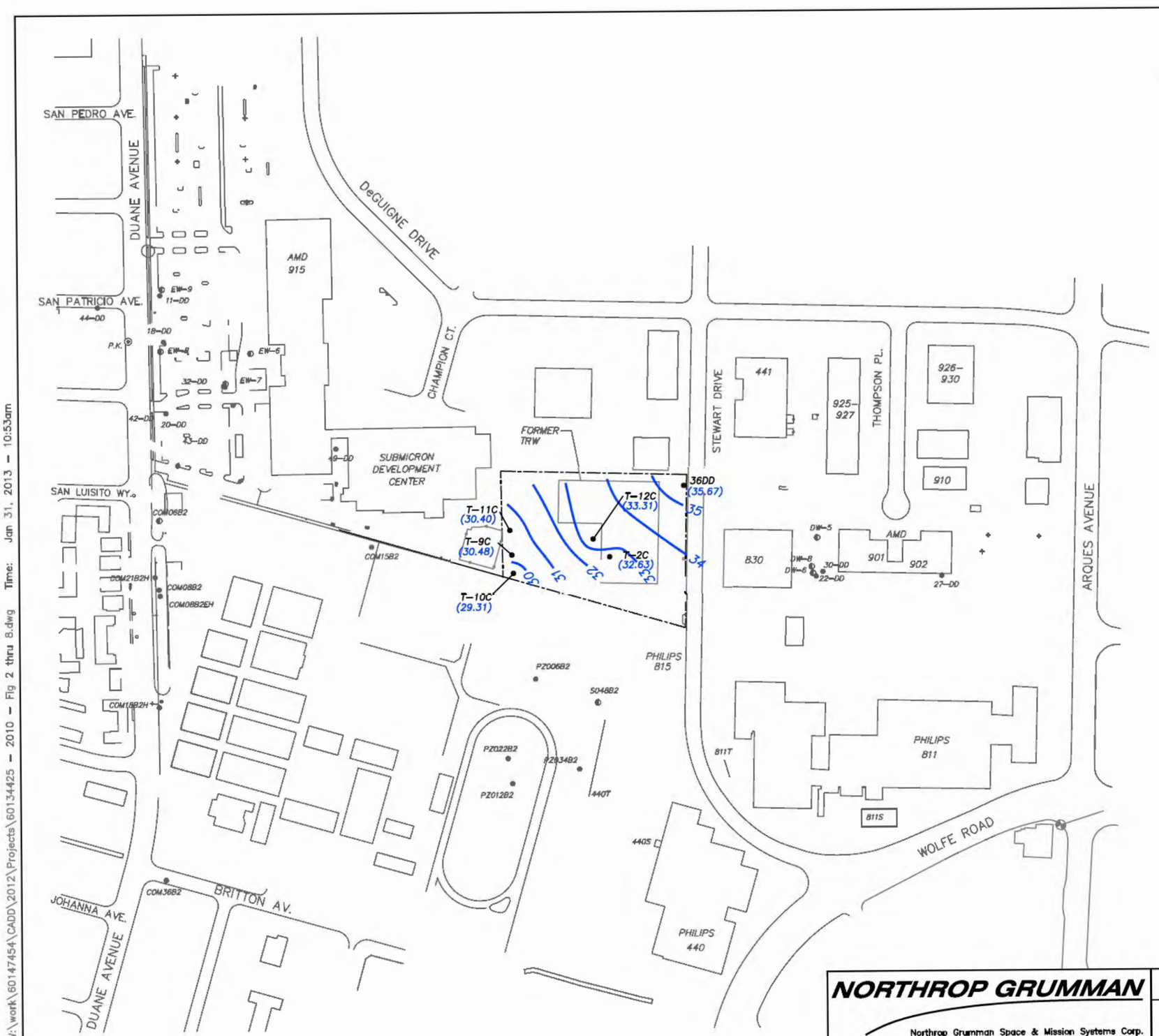

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FORMER TRW MICROWAVE FACILITY

POTENTIOMETRIC SURFACE CONTOURS
ZONE B2
OCTOBER 2012

DATE 11-30-2012

FIGURE 5

File: W:\work\60147454\CADD\2012\Projects\60134425 - 2010 - Fig 2 thru 8.dwg Time: Jan 31, 2013 - 10:53am

APPENDIX J

SUMMARY OF VOC CONCENTRATIONS IN PREVIOUS INDOOR AIR SAMPLING

Appendix J. PREVIOUS INDOOR AIR SAMPLING RESULTS
FORMER TRW MICROWAVE FACILITY
(Page 1 of 2)

Sample Location ID	Purpose	Date	Initial Pressure (inches Hg)	Final Pressure (inches Hg)	Reporting Limit Multiplier	Freon 11	Freon 12	Freon 113	PCE	TCE	VC	1,1,1-TCA	Chloroform
						($\mu g/m^3$)							
October 30, 2003 sampling event													
AI-01	Indoor Random	10/30/2003	-29.0	-8.0	1.83	**5.4**	**3.3**	**1.3**	**0.60**	**4.6**	**0.097**	**0.25**	**0.59**
AI-02	Indoor Random	10/30/2003	-29.0	-8.5	1.87	**4.4**	**3.3**	**1.2**	**0.59**	**3.9**	**0.10**	**0.24**	**0.54**
AI-03	Indoor Random	10/30/2003	-29.0	-8.0	1.83	**3.6**	**3.2**	**1.0**	**0.41**	**2.9**	**0.11**	**0.22**	**0.36**
AI-04	Indoor Random	10/30/2003	-29.0	-8.0	1.83	**4.9**	**3.2**	**1.3**	**0.67**	**5.2**	**0.13**	**0.24**	**0.54**
AI-05	Indoor Random	10/30/2003	-29.0	-7.5	1.79	**3.4**	**3.1**	**1.0**	**0.40**	**2.8**	**0.15**	**0.22**	**0.36**
AI-06	Over Eductor Vault	10/30/2003	-29.0	-7.5	1.79	**4.3**	**3.1**	**1.1**	**0.45**	**3.5**	**0.13**	**0.22**	**0.42**
AI-06	Over Eductor - Duplicate	10/30/2003	-29.0	-9.0	1.91	**4.1**	**3.3**	**1.2**	**0.46**	**3.4**	**0.16**	**0.23**	**0.43**
AA-01	Outdoor Location	10/30/2003	-29.0	-8.5	1.87	**1.5**	**2.9**	**0.65**	ND <0.26	ND <0.20	ND <0.048	ND <0.21	ND <0.18
--	Trip Blank	--	-29.0	-29.0	1.00	ND <0.11	ND <0.10	ND <0.16	ND <0.14	ND <0.11	ND <0.026	ND <0.11	ND <0.099
April 5, 2004 sampling event													
AI-07	Indoor Random	4/5/2004	-29.0	-7.0	1.75	**6.6**	**3.2**	**1.2**	**0.49**	**2.2**	ND <0.045	**0.21**	ND <0.17
AI-08	Indoor Random	4/5/2004	-29.0	-6.0	1.68	**6.3**	**3.1**	**1.1**	**0.42**	**2.3**	ND <0.044	**0.22**	ND <0.17
AI-08	Indoor Random - Duplicate	4/5/2004	-29.0	-6.0	1.68	**6.2**	**3.0**	**1.1**	**0.38**	**2.2**	ND <0.044	**0.21**	ND <0.17
AI-09	Indoor Random	4/5/2004	-29.0	-7.0	1.75	**4.6**	**3.4**	**1.2**	**0.42**	**2.5**	**0.067**	**0.23**	ND <0.17
AI-10	Over Eductor Vault	4/5/2004	-29.0	-6.0	1.68	**4.9**	**3.4**	**1.2**	**0.41**	**2.6**	**0.067**	**0.23**	**0.22**
AI-10	Over Eductor - Duplicate	4/5/2004	-29.0	-6.0	1.68	**5.0**	**3.3**	**1.3**	**0.52**	**2.7**	**0.055**	**0.25**	**0.30**
AA-02	Outdoor Location	4/5/2004	-29.0	-6.0	1.68	**1.8**	**3.2**	**0.88**	ND <0.23	ND <0.18	ND <0.044	ND <0.19	ND <0.17
--	Trip Blank	--	-29.0	-29.0	1.00	ND <0.11	ND <0.10	ND <0.16	ND <0.14	ND <0.11	ND <0.026	ND <0.11	ND <0.099
April 8, 2004 sampling event - under temporary ventilation													
AI-07	Indoor Random	4/8/2004	-29.0	-6.0	1.68	**1.3**	**3.0**	**0.44**	**0.36**	ND <0.18	ND <0.044	ND <0.19	ND <0.17
AI-08	Indoor Random	4/8/2004	-29.0	-6.0	1.68	**1.3**	**3.0**	**0.44**	**0.23**	ND <0.18	ND <0.044	ND <0.19	ND <0.17
AI-08	Indoor Random - Duplicate	4/8/2004	-29.0	-6.0	1.68	**1.2**	**2.8**	**0.40**	ND <0.23	ND <0.18	ND <0.044	ND <0.19	ND <0.17
AI-09	Indoor Random (see Note 1)	4/8/2004	-29.0	-5.0	1.61	-	-	-	-	-	-	-	-
AI-10	Over Eductor Vault	4/8/2004	-29.0	-6.5	1.71	**1.3**	**2.8**	**0.42**	**0.24**	ND <0.19	ND <0.044	ND <0.19	ND <0.17
AI-10	Over Eductor - Duplicate	4/8/2004	-29.0	-7.0	1.75	**1.3**	**2.8**	**0.42**	**0.24**	ND <0.19	ND <0.045	ND <0.19	ND <0.17
AA-03	Outdoor Location	4/8/2004	-29.0	-7.5	1.79	**1.2**	**2.8**	**0.47**	**0.30**	ND <0.20	ND <0.046	ND <0.20	ND <0.18
--	Trip Blank	--	-29.0	-29.0	1.00	ND <0.11	ND <0.10	ND <0.16	ND <0.14	ND <0.11	ND <0.026	ND <0.11	ND <0.099
October 4, 2004 sampling event													
AI-11	Indoor Random	10/4/2004	-29.0	-6.5	1.71	**3.8**	**2.4**	**0.96**	**0.66**	**4.3**	ND <0.044	**0.18J**	**0.17**
AI-12	Indoor Random	10/4/2004	-29.0	-6.5	1.71	**5.4**	**2.5**	**1.0**	**0.73**	**5.1**	ND <0.044	**0.19**	**0.17**
AI-13	Indoor Random	10/4/2004	-29.0	-5.5	1.64	**7.0**	**2.5**	**1.0**	**0.65**	**4.5**	ND <0.042	**0.19**	**0.18**
AA-04	Outdoor Location	10/4/2004	-29.0	-6.5	1.71	**1.1**	**2.4**	**0.60**	ND<0.23	ND<0.18	ND <0.044	ND<0.19	ND <0.17
--	Trip Blank	--	-29.0	-29.0	1.00	ND <0.11	ND <0.099	ND <0.15	ND <0.14	ND <0.11	ND <0.026	ND <0.11	ND <0.098

Appendix J. PREVIOUS INDOOR AIR SAMPLING RESULTS
FORMER TRW MICROWAVE FACILITY
(Page 2 of 2)

Sample Location ID	Purpose	Date	Initial Pressure (inches Hg)	Final Pressure (inches Hg)	Reporting Limit Multiplier	Freon 11	Freon 12	Freon 113	PCE	TCE	VC	1,1,1-TCA	Chloroform
						($\mu g/m^3$)							
Threshold Levels													
USEPA Region 9 Screening Levels - Industrial Exposure (November 2013)						3,100	440	130,000	47	3	2.8	22,000	0.53
Environmental Screening Levels (RWQCB 2013)						-	-	-	2.1	-	0.16	-	2.3

Notes:
Sampling locations are shown on Figure 3.
Only detections are summarized in this table. Table includes comparison to industrial air USEPA Region 9 Screening Levels current as of February 2014 (USEPA 2013a).
= Value above one or more screening levels.
(1) Results from the 4/8/04 sample not deemed to be representative of indoor air conditions and are not included in the table. PCE was detected at 2.5 $\mu g/m^3$ in this sample, which is significantly higher than PCE concentrations detected in other samples from that day or previous/subsequent sampling events.

--	not established
$\mu g/m^3$	micrograms per cubic meter
ND<0.20	non detect less than stated reporting limit (e.g. 0.20)
1,1,1-TCA	1,1,1-trichloroethane
Freon 11	trichlorofluoromethane
Freon 12	dichlorodifluoromethane
Freon 113	1,1,2-trichloro-1,2,2-trifluoroethane
inches Hg	inches mercury
PCE	tetrachloroethene
RWQCB	Regional Water Quality Control Board
TCE	trichloroethene
USEPA	United States Environmental Protection Agency
VC	vinyl chloride

APPENDIX K

PHOTOGRAPHS OF INJECTION ACTIVITIES

APPENDIX K
Photos from TRW Microwave Facility EOS® Injection
October 2010

EOS® and EOS® Activator

Combining EOS® and EOS® Activator

Poly storage tank used for extracted groundwater prior to reinjection

Dosatron used to meter EOS ®into extracted groundwater

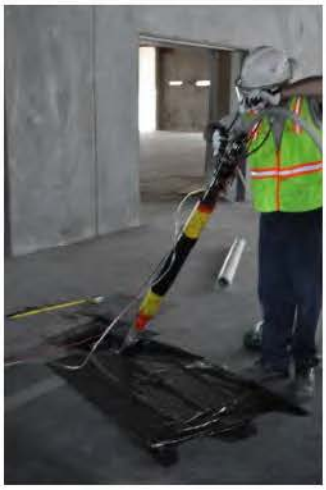
Adding fluorescein dye to the injection line

EOS and fluorescein in groundwater after injection

APPENDIX K
Photos from TRW Microwave Facility Neat Vegetable Oil Injection
November 2010

Poly drum used to store extracted groundwater

Neat vegetable oil and sodium bicarbonate



Packer being lowered into Eductor

Vironex injection rig

Mixing tank and injection manifold

APPENDIX K
Photos from TRW Microwave Facility ABC+® Injection
November 2011

ABC® Tote and transfer pump

Mix tank for ABC® and potable water

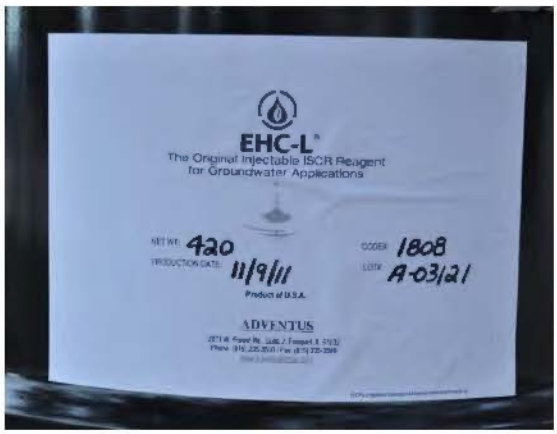
Adding ZVI to ChemGrout mixer

Mixing guar with potable water

ABC+® in the ChemGrout prior to injection

Injection of ABC+® through direct push drill rods

APPENDIX K
Photos from TRW Microwave Facility EHC-L® Injection
November 2011



EHC-L® drum label

EHC-L® Mix

EHC-L®

EHC-L® mix tank and diaphragm pump used for injection

Injection line at Well T-23A